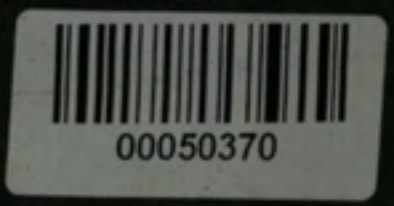
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PYRAMIDS OF GIZEH.

Published by James Fraser Regent Street

OPERATIONS

CARRIED ON AT

THE PYRAMIDS OF GIZEH

IN 1837:

50370
a

WITH AN ACCOUNT OF

A VOYAGE INTO UPPER EGYPT,

AND

An Appendix.

By COLONEL HOWARD VYSE.

VOL. II.

Exh 8

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OPERATIONS CARRIED ON AT GIZEH,

&c. &c.

May 31*st.*

Reis, 9. Men, 217. Children, 191.

Great Pyramid.—Excavation in northern front.
—— Excavation eastward in northern front.
—— Excavation westward in northern front.
—— Excavation for round holes in northern front.
—— Roof in Queen's Chamber.
—— Clearing Chambers and Passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.
Shaft between Campbell's Tomb and Second Pyramid.
Shaft north of Sphinx.

Mr. Mash and Mr. Perring went on with the survey. Excavations were begun to the westward and eastward of the centre on the northern front of the Great Pyramid, in order to discover whether the step and pavement were continued, and also to ascertain the base. In both places pieces of the casing stones, and of the blocks, were

found, which had formed a pavement, and the rock had been levelled, but not to so great a width as at the centre. The ground was also cleared in front of the north-eastern angle, that the round holes and grooving already mentioned might be surveyed. Several green idols were found at the depth of fifty-five feet in the southern foss of Campbell's Tomb, also a round knob of yellow stone, apparently the stopper of a vase, and a rectangular oblong piece of the same material, two inches by one inch and a half, and half an inch thick. It was highly polished, but was perfectly plain, without carving or inscription. These articles were afterwards sent to the consulate. I again examined the ruins to the eastward of the Great Pyramid, and went round the works with Mr. Raven.

An Englishman (Goodman), whom I had sent to Alexandria with the packet for Mr. Hamilton, returned with a letter from Colonel Campbell, and entered my service. He informed me that the weather had been unusually stormy at Alexandria. We had also experienced at the pyramids heavy showers and strong gusts of wind chiefly about sunset. The ground at Gizeh, and also at Thebes, is in many places broken up by ravines, or channels, which are supposed to have been caused by heavy rains. Mr. Wilkinson and also Mr. Hamilton mention periodical showers; and pits have been formed near the entrances of some of the tombs at Thebes, apparently to secure them from damp. Yet, although heavy showers do occasionally occur, continued rain is exceedingly rare, and it can hardly be supposed to have fallen in sufficient quantities to have made these deep channels, which are probably, therefore, the repeated effects of violent winds.

June 1*st.*

Reis, 10. Men, 198. Children, 157.

The same works were repeated.

The Sheik of Harronich again informed me that the people from his village, and from Cafr el Batran, would be sent to the canal. I therefore requested Mr. Piozan to apply to the Madyr. Mr. Mash copied the hieroglyphics in Campbell's Tomb. A flat piece of black stone, about half an inch thick, square at one end, and round at the other, but without any hole, carving, or inscription, was found in the southern foss. Particles of leaf gold, broken pieces of coarse earthenware, and a small ornament like a cross, were likewise taken out. This tomb, which, before it was plundered, must have been amazingly rich, was a sort of Columbarium. Quantities of bones, and five sarcophagi, were found in it; and probably many others have been deposited in the adjacent pits. The whole ground, indeed, is one vast cemetery, and abounds with shafts and sepulchral grottoes formed in the quarries, which have supplied materials for the pyramids and for other buildings.

June 2*d.*

Reis, 10. Men, 201. Children, 165.

Great Pyramid.—Excavation in northern front.

—— Excavation eastward in northern front.

—— Excavation westward in northern front.

—— Roof in Queen's Chamber.

—— Clearing the Chambers and Passages.

Second Pyramid.—Roof in Belzoni's Chamber.

Third Pyramid.—Interior.

Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.
Well north of Sphinx.

The shaft[1] between Campbell's Tomb and the Second Pyramid was examined. From the grotto at the bottom of the first shaft a second descended to a lower chamber, in which square pillars had been left to support the roof; a third shaft in this apartment was full of water, which was perfectly fresh, and covered the floor to the depth of four or five inches. The level of the water was one hundred and thirteen feet seven inches below the top of the upper shaft. The Arabs said that an horizontal passage proceeded to the northward from these chambers through the side of the rock, but, *owing to the* drifting of the desert sand, and to the effects of repeated excavations, it is at present impossible to form an idea of the original surface of the ground. It was highly probable that water had been collected in artificial reservoirs for religious purposes; but we did not suppose that it proceeded from a spring, or fountain, as nothing of the kind was to be met with in the whole country of Egypt; although, had it been proved to be an original source, it would have sufficiently accounted for the reputed sanctity of the ground. It may proceed from rain, but does not appear to flow from the river; as it does not rise and fall with it.[2] In whatever way it may be produced, the sarcophagi could not have been intentionally immersed, and the inundations of the tombs must have

[1] No. 1, in map.

[2] See Appendix; where the different levels are stated.

accidentally arisen from the artificial channels having been stopped up, and from the water having penetrated between the strata of the rock.

In answer to the letter, which Mr. Piozan had sent by an express into Upper Egypt, the Madyr informed him that the people from Koum el Eswith, Cafr el Batran, and Harronieh, were ordered to come to the pyramids, but that the population of the other villages would be wanted at the canal. This arrangement appeared sufficiently explicit, but it was extremely difficult to find out to what villages the people belonged. The Sheiks could not be depended upon; and, from the fear of conscription, for the army, or for compulsory labour at the factories, many of the people had no settled habitations, but wandered from place to place as opportunity offered. From the fineness of the climate their wants were few, and no ideas of comfort or of home interfered with their wandering inclinations.

A small piece of brown stone, inscribed with part of the cartouche, or legend of Suphis, was dug out of the rubbish at the centre of the northern front of the Great Pyramid. At first I imagined it was supposititious; upon examination, however, it seemed to be genuine, but it did not appear to have been used in the construction of the building.[3]

This cartouche, together with another, is introduced amongst the hieroglyphics, with which the interior of a building to the westward of the Great Pyramid is covered. It has been called the tomb of Trades; and that part of the inscription, which relates to the cartouche, has been

[3] The stone has been already described in vol. i., page 258.

sent to me by Mr. Perring, and is contained in the following note, with Mr. Birch's remarks.[4] It had been copied by Signor Rosellini, before the discovery of it in the

[4] The hieroglyphics, found in the tomb of Trades, over a male and female figure, contain, as may be naturally expected, their names. That over the male has the name and titles of the son of the person to whom the sculptures in the tomb relate, and for whom it was probably excavated. It refers to Eimai, "his beloved eldest son, royal orator, royal priest of the king Shoufô (Suphis or Cheops), superintendent of the palace, scribe of truth." The one over the figure called a female (most probably a person of very high rank), bears the name of "Skafasonkh, royal orator, prophet, royal priest, superintendent of the palaces of Shoufo (Cheops), of the royal race, devoted to his lord, loving his lord," &c. In this latter instance, the name of a king forms part of the name of a private individual,* an occurrence not uncommon at this period, and often adopted during the era of the Psammetici, who revived both the prenomina, titles, customs, &c., of the early dynasties. By the help of these inscriptions, the individual successions of the several dynasties may be sometimes made out, because the names of course generally occur either during, or posterior to, that of the monarch assumed. In the present instance, for example, it shews that the monarch Skafas was one of the immediate *predecessors* of Cheops, if not the personage termed, in the lists of Eratosthenes and Manetho, Biuris, Aiuris, or Soris.

M. Rosellini indeed makes this monarch a successor of Suphis II. (see tom. i. tav. 1, 6), but the additional light thrown upon the subject by the inscription of the tomb in question proves that he must have been a predecessor, unless we suppose, contrary to all analogy, that names were assumed in advanced *life and* after infancy.† M. Rosellini

* In an inscription upon a tomb brought from Gizeh (B. M.) a person is named "(Re-Shef) Nofre. Shefre-Nofre;—The good Chefren." Many examples may be found of names thus compounded of the Saite dynasty.

† We know from the Bible, that Joseph's name was changed in Egypt, and those of Daniel and his companions during their captivity; but this was probably on account of their being foreigners.

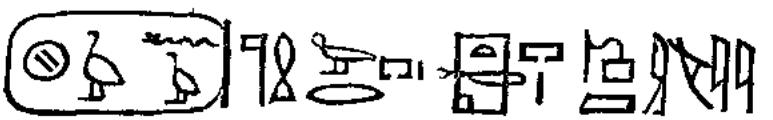
Great Pyramid, and was ascribed by him to Suphis, the Cheops of Herodotus. As that monarch is said to have

(tom. i. p. 131) does not propose any reading for the name, but the anterior part, of the Phonetic value of which he was not aware, replaces in the ritual a group reading &C, perhaps the obsolete word for statue, and still retaining in Coptic the sense of "antient," "ancestor," &c. He justly regards this as the ultimate portion of the name, of which the other part reads CK&Cϥ, "he who offers," or "is devoted to." The whole then reads CK&Cϥ&C, Skafas—a name very analogous to those of the dynasty. Some difference exists between the reading of the group ⲣⲱ or ⲣⲱϫ, which M. Rosellini, in his account of this tomb (Monumenti Civili, parte seconda, tom. i. p. 35), supposes to signify "purificator." M. Salvolini, on the contrary, regards the expression as that of "to speak, address, orator" —ⲣⲱϫ of the Coptic, probably from its occurring with the determinative image of a seated man holding his hand to his mouth

—the determinative symbol of verbs of speaking, calling, &c. It is remarkable that both these royal names are unaccompanied by regal titles; and the formula, "loving his lord," is of common occurrence in the inscriptions unattended by the title of the monarch — the office held indicating "the lord" referred to. The accompanying transcription and interlinear interpretation, reads from left to right, in accordance with the European manner, in order to make the translation plainer:

OVER A MALE FIGURE.

Ⲥⲓ-ϥ	ⲱⲉⲣ	ⲙⲁⲁϥ	ⲥⲟⲩⲧⲉⲛ	ⲣⲱ	ⲥⲟⲩⲧⲉⲛ	ⲟⲩⲁⲃ
His son	eldest	loving him	royal	orator?	royal	priest of

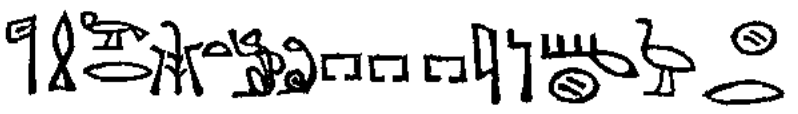


Ⲩⲟⲩϥⲱⲩ	ϩⲟⲛ ⲛⲉⲣ ⲏⲓ	ⲡⲁⲁ-ⲏⲓ	ⲥϩⲁⲓ	ⲫⲓⲙⲁⲓ
Shoufou Suphis I. or Cheops.	prophet superintendent of	the house	palace	scribe of truth?	Eimai.

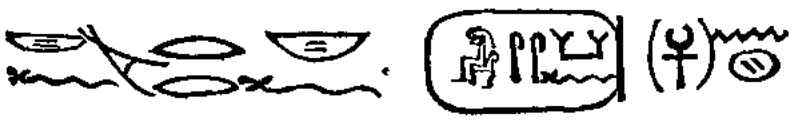
been held in such detestation that his name was not even pronounced, and that neither his body nor that of Chephren were buried in the pyramids, it is surprising that his

OVER A MALE AND FEMALE FIGURE.

Royal orator, royal priest, superintendent of the house palace (of) Shoufou, Suphis I. or Cheops.



prophet superintendent royal race? houses with devotion to



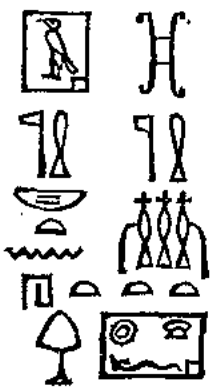
his lord, loving his lord. Skafas-onkh.

My attention has been especially directed to two parts of the preceding inscription: — I. The term "souten-ouab, or royal priest"—a title only found at this particular epoch, from its occurring before the name of Shoufou — and since Suphis or Cheops is mentioned as belonging to the sacerdotal order, M. Rosellini considers the expression to refer to the monarch, not the individual; but in the second part of the inscription from the inner room, over both figures, it occurs immediately after "souten-rokh," and forms part of the title of the individual beyond a doubt, as the monarch would be scarcely called *attaché* to, or chamberlain of, his own palace; and it refers to the person equally with the term

cartouche was recorded in any place by the priests, or, at all events, that it was not effaced after his death.

The quarry-marks in the chambers of construction in the Great Pyramid, and upon the stones belonging to the Second and Third, prove that hieroglyphics were made use of before these buildings were erected; and the inscriptions in the tomb of Trades shew that they had been employed at

immediately preceding it. At a later period, both terms were abandoned, and the term "royal scribe," the basilico-grammateus of the Greek inscriptions, appeared. II.—The term immediately following the cartouche is rather ambiguous. It appears, in Burton's "Excerpta," to follow or precede each of a small series of cartouches, according to the mode we are willing to read them — the inscription being, unfortunately, imperfect. M. Champollion, Gr. Eg. explains this as ϩOπ, or "prophet priest," but affords no information as to the reason of such hypothesis. As the title in the tombs and texts uniformly accompanies persons of the sacerdotal order, it is evidently some functionary of that class, as we have prophets of Amoun, Phtah, Monthra, and almost every principal deity of the Pantheon. But as the term is seldom placed absolutely by itself, and is always *prefixed* to the name of the deity, of which the individual was the priest, sometimes with the sign of the genitive case interposed, it possibly refers to the monarch; and priests, or prophet-priests of the monarch Remeses the Great, appear on some steles. At this early epoch, however, the title appears to have had some original signification analogous to "great God," "gracious God," &c., of a later time, as on the entrance of a Memphian tomb of this era. B. M., Egyptian Saloon, behind No. 64, the goddesses Athor and Neith are termed —"*Athor the goddess, mistress of the abode of the sycaomore. Neith, the goddess resident in the abode of the king Re-shaf,*" *or Shaf-re* (*Cephren*), where the symbols cannot signify "*priest,*" and it is impossible that they indicate "prophet of the goddess Athor."



that time for sepulchral purposes: they abound, in fact, upon almost every Egyptian tomb and sarcophagus, from the earliest ages down to the time of the Romans; and the exception formed by the pyramids, appears to corroborate the antient tradition that those buildings were the mausolea of the Shepherd Kings, who conquered Egypt, and who were entirely of a different race, and hostile to the religious institutions of the country.

The insertion of the cartouche of Mycerinus in the Fourth Pyramid may have been accidental,[5] but the manner in which it is inscribed upon the mummy-board found in the Third, agrees with the assertions of the priests, that that king was held in a more favourable light than his predecessors, and it is probable that, on account of his toleration of their religious observances, he may have been considered worthy of funereal rites, and also of having his name recorded over the entrance into the pyramid. It is to be observed, however, that although his sarcophagus was different from those of his predecessors, and was highly ornamented with sculpture, yet that it did not bear a single hieroglyphic, and that his body was not enveloped, according to universal custom, in linen or cotton, but in woollen cloth. This mummy-cloth was the first that had been discovered made of that material,[6] which is stated to have been considered impure by the antient Egyptians, and therefore unfit for sepulchral ceremonies; but more of it has been subsequently taken by Mr. Perring from some antient tombs at Tourah, which do not appear to have

[5] See *July* 5.

[6] An account of this discovery is given in the Appendix. A skull and some of the cloth have been deposited in the British Museum by Dr. Bowring.

belonged to Egyptians, although some of their funereal customs seem to have been observed. The vicinity of Tourah to the quarries, where the Hebrews are supposed to have worked, and whence they commenced the Exodus, makes the similarity of these cerements the more remarkable; and although the national vanity of Josephus has in vain endeavoured to shew that the shepherd kings were the sons of Jacob, yet we know that the latter were also shepherds, and that before their arrival every shepherd was an abomination to the Egyptians; an hostility which it is difficult to account for, excepting by the antient traditions respecting these mighty strangers; who are also said by Manetho to have laid the foundation of Jerusalem after they were expelled from Egypt.

June 3d.

Reis, 10. Men, 210. Children, 172.

The same works were repeated.

Much to my satisfaction, a new rope, which Mr. Hill had procured from Boulac, was rove to the great windlass at Campbell's Tomb. As the excavations from the northern and southern sides of the Fourth Pyramid met in the centre, without the discovery of any apartment, it was supposed that a shaft was concealed beneath the building.[7] Additional excavations were therefore begun from the centre in various directions on a level with the base; and if these operations proved ineffectual, I intended to quarry under each of the blocks which had been left to support the superstructure. I returned to Cairo with Mr. Mash.

[7] See Appendix.

June 4th. — The Sheik of Harronieh came to Cairo about his men. Mr. Piozan had the kindness to write to the Mamoor; but owing to the negligence of my Coptic servant, the letter was not sent till the following day, but as it was probably a mere complimentary effusion, and was written by a dragoman upon whom no great reliance could be placed, the delay was of less consequence. Mr. Piozan offered to apply to Habib Effendi, but I would not give him the trouble, as I considered that the interference of the governor could not with propriety be requested, or usefully exercised in affairs under the Madyr's immediate jurisdiction.

June 5th.

Reis, 10. Men, 173. Children, 169.

Great Pyramid.—Excavation in southern front.
—— Excavation westward in northern front.
—— Roof in Queen's Chamber.
—— Clearing Chambers and Passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
Excavations between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.
Shaft north of Sphinx.

I returned to the Pyramids with Mr. Perring, Mr. Mash, and Mr. Hill, in a Kamseen wind.

The men employed in the two excavations at the northern front of the Great Pyramid were occasionally taken to Campbell's Tomb, as, on account of the great depth, much strength and many hands were required to work the windlasses by which the sand was raised.

June 6th.

Reis, 10. Men, 169. Children, 142.

The same works were repeated.

The Sheik of Cafr el Batran came with a request that my blacksmith might be allowed to make for him an instrument to cut grass, or grain. I readily consented, as I understood from his description that it was a trifling affair, which would be soon completed. It proved, however, to be an immense machine, composed of nearly a ton of iron. The metal, in fact, was his chief object. I kept my promise, but carefully avoided such engagements in future. It is indeed impossible to place the smallest reliance on these people, who scarcely know the difference between truth and falsehood, and say what will suit best for the moment — a practice, it is to be observed, that is not unfrequently to be met with in other countries.

Mr. Perring and Mr. Mash took levels, and again carefully examined and measured the works in the Third Pyramid. The operations at the shaft north of the Sphinx were finished.[8]

A Sheik's son, who was to be circumcised, came in a grand procession across the plain in the hope of receiving a backshish. He was about eight years old, wore a red robe and a large turban, and rode a white mare. He was accompanied by skirmishers on horseback, by music, and dancing. The girls, who were employed in these performances, had sticks in their hands instead of swords, and were dressed in long trowsers. Their black veils were confined by a quantity of coloured fillets; and pieces of

[8] No. III.

silk hung loose from their arms, and had a singular appearance. After exhibiting for some time, they received a few piastres and some gunpowder, and went away.

As the heat of the weather increased, the flies became extremely troublesome, but we derived great benefit from nets at the doors and windows. The gnats and sandflies also made a mosquito curtain indispensable to those, who could not adopt the custom of entirely covering the head and face at night. This is universally practised by the Arabs, and is an excellent precaution, not only against mosquitoes, but also damp exhalations, cold dews, malaria, &c.; and it may be remarked, that in Eastern countries the head is always well covered, as a protection against the heat by day, and the cold by night.

June 7th.

Reis, 10. Men, 201. Children, 172.

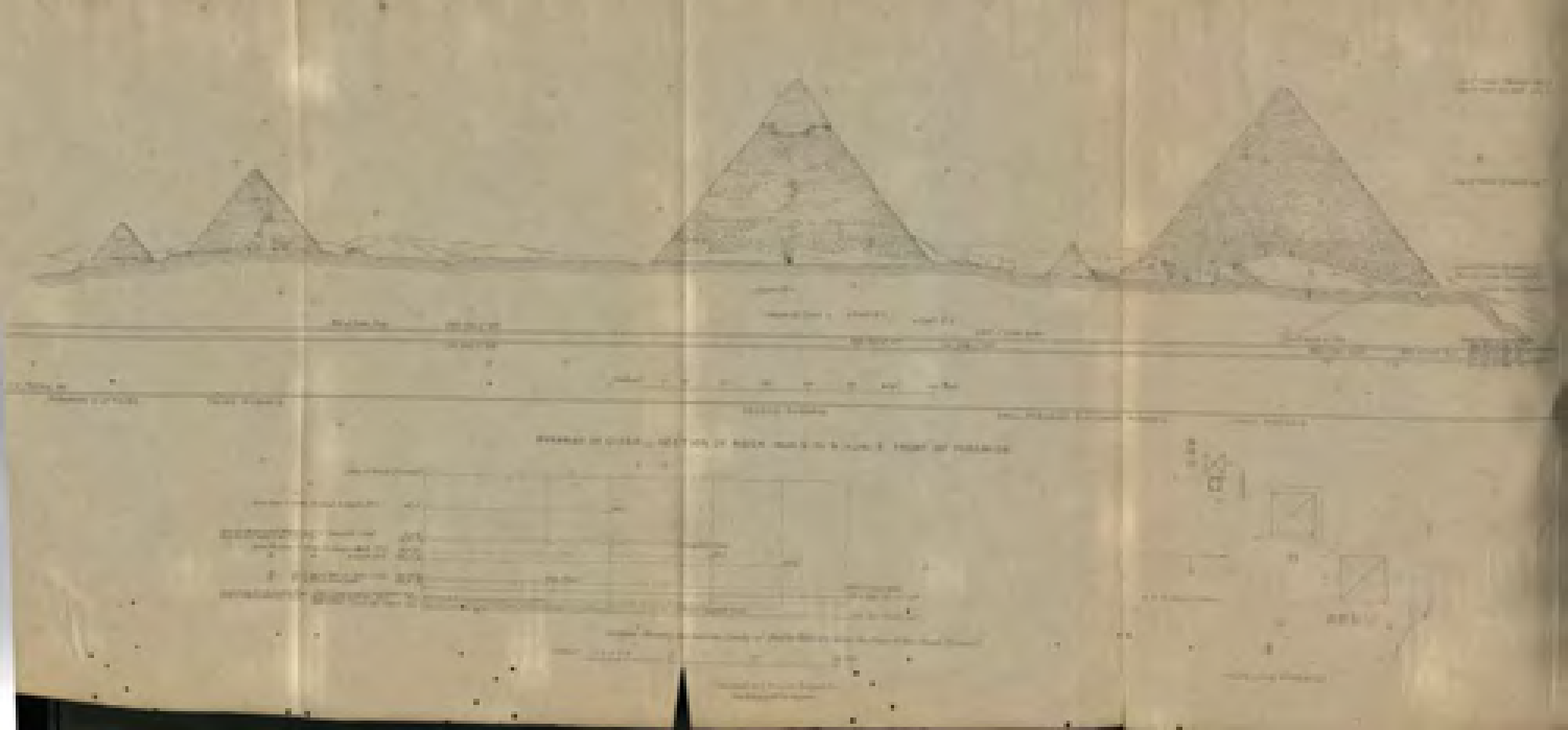
Great Pyramid.—Excavation in northern front.
——— Excavation eastward in northern front.
——— Excavation westward in northern front.
——— Roof in Queen's Chamber.
——— Clearing the Chambers and Passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

June 8th.

Reis, 10. Men, 176. Children, 177.

The same works were repeated.

In many parts of the foss in Campbell's Tomb, the



sand had been cleared out to the depth of sixty-five feet, and at the north-western corner we had at length arrived at the bottom at seventy-three feet. Abd el Ardi told me, that at Saccara several of the shafts were above two hundred feet deep, and that images of iron and of silver, some of which (according to his description) represented Harpocrates, were found in the grottoes. Mr. Raven was employed in the Third Pyramid; Mr. Perring and Mr. Mash in continuing the survey.

June 9th.

Reis, 10. Men, 167. Children, 190.

The same works were repeated.

A Turkish Effendi, from Syria, accompanied by some Arabs, came to the tents.

Fragments of an alabaster vase, and several small bottles, were found in the southern part of the foss of Campbell's Tomb — one or two of the latter contained the remains of a dark substance, which upon being wetted gave a brownish stain.

June 10th.

Reis, 10. Men, 199. Children, 169.

The same works were repeated.

There is a considerable hollow before the northern front of the Third Pyramid, and the ground falls from it on the eastern and southern sides. In consequence of some remarks, that Mr. Perring and Mr. Mash had made during their survey, I examined very particularly a square pit at the northern front of this building. It appeared to have been made in search of an entrance, and was reveted on the western side, and on that next the pyramid, to keep up the surrounding rubbish, that

extended along the front of the building, and contained enormous masses of calcareous stone and of granite, and other fragments chiefly produced by two large chasms, which had been made one above the other in the face of the pyramid, and were said by M. Denon to have been the works of the Mamelucs. The eastern side of the upper chasm is exactly in the centre of the northern front, and the gallery, which I carried to the middle of the building, proceeded from the end of it. At first, the bottom of the pit appeared to be rock, but upon closer examination it was found to consist of large stones, the upper tier of which had been removed. It was, in fact, a continuation of the pavement subsequently discovered to the eastward, which was formed of two ranges of enormous blocks of such magnitude and weight, that it was difficult to imagine how they could have been conveyed to their present position. As the joints were open, they had probably been covered with a coating of finer work. Several red lines and triangles, like those found in the chambers of the Great Pyramid, had been inscribed upon them. The pavement did not extend to the westward, as the rock was considerably higher in that direction; but it was necessary in front of the north-eastern angle, to make good the declivity of the ground, and was probably connected with the southern dyke. It suggested to some people an idea that a larger pyramid had been originally intended; but I was not myself of that opinion, because the substruction extended to a considerable distance in the centre, and also because the rock to the westward had not been cut down or prepared, but was on a higher level, and abounded with holes filled up with sand and rubbish. Gunpowder appeared to have been made use of in the removal of the stones at the bottom of the pit, and a hole had been drilled in one of them

under the side of it. It was difficult, therefore, to imagine why a wall had been built precisely over the part which required to be searched. It had the appearance of considerable antiquity, but it had evidently been built against the mound of sand and stone. Like the works in the Fourth, the shaft in the interior of this pyramid had not been attended with any success; it was concluded, therefore, that the Chambers were excavations in the rock, and that the entrance was concealed by the pavement without the pyramid; for it was naturally supposed that the lower part of the building had been carefully examined before the chasms had been begun by the Mamelucs. I therefore determined, not only to take up the pavement at the bottom of the pit, but also to ascertain whether it was continued on each side of it, and towards the pyramid;—operations that were attended with great labour and difficulty, on account of the vast accumulations of sand, and of the number of blocks that were to be removed—several of them of granite, and four or five tons in weight.

Some more broken bottles, similar to those already described, a large copper nail, pieces of coarse pottery, a few idols, and one or two beads, were found in the south-eastern corner of the foss in Campbell's Tomb.

On my return to Cairo with Mr. Mash, I received a letter from Colonel Campbell by Baron Gunzerode and Captain Gibser, two German officers, with whom I had the pleasure of becoming acquainted.

June 11*th.*—A number of articles were sent to the consulate for Colonel Campbell.

June 12*th*.

Reis, 10. Men, 251. Children, 201.

Great Pyramid.—Excavation in northern front.
—— Excavation westward in northern front.
—— Roof in Queen's Chamber.
—— Clearing the Chambers and Passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

I did not go to Gizeh; but Mr. Raven set out at day-break, according to his usual custom.

June 13*th*.

Reis, 10. Men, 191. Children, 171.

The same works were repeated.

I remained at Cairo on account of a festa, at which the Dervishes were to perform some extraordinary ceremonies; but as the customs and rites of the Mahommedan religion have been fully detailed by Mr. Lane, I shall refer the reader to his interesting book, and merely describe what happened to fall under my own observation.

I went in the evening with Mr. Piozan, the two German officers, Mr. Brettel, Mr. Perring, Mr. Andrews, and Mr. Mash, to the house of the Sheik of the Dervishes, on the Esbequier.[5] He was a little old man, and

[5] The Esbequier is a large space in the town surrounded with houses. The middle of it was formerly converted by the inundation of the Nile into a lake, upon which fireworks used annually to be exhibited, and festivities to take place, when the Khalidge was cut. The water became stagnant and offensive as the river gradually fell, and it was considered advisable to fill up the ground, and to plant it. It is at present adorned

wore a light-blue robe; and we found him in company with a number of other persons seated upon a handsome divan, in a spacious apartment, in the lower end of which there was, as usual, a marble fountain. He received us with great civility, and being informed of the motive of our visit he directed his brother-in-law, and a personage lately arrived from Morocco, to conduct us into an adjoining apartment, which afforded a prospect of the preparations for the festa. After the usual refreshments, of coffee, pipes, and sweetmeats, as the ceremonies had commenced, we went out to see them. I did not observe any persons in Frank dresses, excepting those of our party; but, although a vast concourse of people had assembled, we wandered about in every direction without receiving the slightest molestation or insult. Triumphal arches ornamented with coloured lamps, and with inscriptions taken most probably from the Koran, had been erected near a high wall on the Esbequier, and also a variety of tents and booths, where refreshments were sold consisting of hot dishes prepared with oil, coffee, sherbet, strong waters, pipes, &c.; but the principal performances took place in a number of pavilions formed with carpets suspended upon lines, and capable of containing two or three hundred people; they were illumi-

with a few old sycamores, which have a venerable and picturesque appearance. A broad road, separated by a wide ditch from the ground in the centre, is left in front of the houses, excepting on the southern side, where they have the advantage of large gardens, which would be extremely delightful if they were irrigated, and kept in good order; but the glowing ideas of oriental gardens exist only in the imagination, although those at Shoubrah and at Rhoda are in some degree exceptions.

Kleber was assassinated in a garden belonging to an house in the Esbequier.

nated with lamps and paper lanterns, and crowded with spectators, who thronged round a boarded floor, which had been prepared for the dervishes, or priests, who directed the ceremonies, and for the performers, who stood in circles, rocking their bodies backwards and forwards, and at times moving round performed the dance described by Mr. Lane. Their movements were accompanied by Turkish music, and loud recitations in unison with the priests, who regulated their motions in a very striking and effective manner. The noise and uproar may be imagined; as the people became more excited, their voices were hoarse and discordant, till several of them, entirely exhausted from fatigue, heat, and enthusiasm, fell down, apparently in fits. When a vacancy occurred it was immediately filled up, and the performances continued without intermission. All ranks and conditions of the common people were engaged in them, and several of them appeared to be as enthusiastic as the dervishes themselves.[6]

We returned home late at night, and found the streets

[6] This remarkable exhibition reminded me of a scene, which I had witnessed some years before on the night of Christmas eve in the church of Ara Cœli at Rome, which, on account of its reputed sanctity, was crowded with peasantry in the picturesque costume of the neighbouring mountains. As the night wore away, most of the lamps in the body of the church burnt out, and the few that remained, combined with the gleams of the morning, not only gave a singular and mysterious appearance to the grotesque architecture of the building, and to the fantastic ornaments, with which it had been for the occasion decorated, but lighted up with an extraordinary effect the sparkling eyes and wild countenances of the worshippers, who, excited like these poor Arabs by superstitious enthusiasm, repeated with hoarse and exhausted voices continued responses to the service of the monks, which, waxing louder and louder, pealed forth from the blaze of light that filled the choir.

illuminated, and full of people, and the shops open for the sale of refreshments, but not a woman was to be seen even at the windows. The principal mosques were also lighted up; and various processions with flambeaux, iron cases filled with lighted wood, banners, and Turkish music, paraded during the whole night from mosque to mosque, reciting portions of the Koran, and paying complimentory visits to the chief officers of the different religious establishments, who sat for that purpose without the buildings, attended by lights and music. A large mosque adjoined Mr. Hill's hotel, and the officers belonging to it were stationed immediately beneath the windows of my room[7] to receive the successive deputations; which advanced in a noisy and tumultuous manner, till they were within twenty or thirty paces of those whom they intended to visit, when they halted, and four or five individuals advanced and delivered a sort of address, which ended in a salutation. They then returned to their party, the bawling and clamour were resumed, and the cavalcade moved off amidst the shouts and exclamations of those whom it had come to compliment; and in this manner one procession after another arrived during the whole night, so that the town was not quiet till three o'clock in the morning.

[7] These officers were old men of the most wretched description, and lived in an underground apartment below the mosque. They did not appear to have much employment, but were seated during the greater part of the day upon mats in a shady corner of the street, and were employed in selling small quantities of tobacco to the passengers. The degraded condition of the inhabitants of these countries is therefore easily accounted for; and the same observations will unhappily apply to the state of the common people of Ireland, and of most Roman Catholic countries.

June 14th.

Reis, 10. Men, 137. Children, 183.

Great Pyramid.—Excavation in northern front.
—— Excavation west in northern front.
—— Roof in Queen's Chamber.
—— Clearing the chambers and passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
Excavation between the Third and Fifth Pyramids.
Fourth Pyramid.—Interior.

We set out again this morning about eleven o'clock for the Sheik's house; and as we were accidentally too late for the regular dinner, we were served in an adjoining room. Upon returning to the large apartment, we found many of the principal persons in Cairo assembled, and, amongst others, Muchtar Bey, the Minister of Instruction, and at that time a great favourite with the Pacha. He spoke French, and addressed himself with much fluency to all our party. Like the rest of the people of rank, he wore a white Nizam dress, and was decorated with a large diamond order; the decorations of some of the other people had the addition of an anchor, which shewed that they belonged to the navy.

After remaining here for some time, we went to a kiosk in the gardens belonging to the house to witness the ceremonies. A Sheik of the dervishes, dressed in a large turban, and in a yellow robe, attended by a numerous suite, and a grand display of horses' tails, banners, and music, and followed by a vast multitude of people, arrived from a mosque in a distant part of the city by a raised road, that had lately been constructed across the Esbequier. Upon his approach towards the

house of his superior a number of men laid themselves down with their faces upon the ground close to each other across the road, and the Sheik and all his attendants passed over them. As the dust and the mob prevented our having a distinct view of this spectacle, we went through a stable into the Esbequier to see it repeated, when thirty or forty men laid down before us, and were arranged close to each other by some attendants; when the Sheik advanced in the same manner as before, and rode over the whole of them. One or two of them appeared to be uneasy and apprehensive as the Sheik approached; and several either pretended, or had in reality received slight injuries. After the Sheik had dismounted I examined his horse; he was about fifteen hands two inches, of good substance, and shod in the common Turkish manner. There was not therefore any deception, neither is the same horse always used. This ceremony is repeated twice every year, and is minutely described by Mr. Lane. We then returned to the house, accompanied by the Sheik who had dismounted, and resumed our seats on the divan. The lower end of the apartment was filled by a number of people, many of whom advanced, and kissed the Sheik's hands in the most reverential manner. After some time a man naked down to his waist came forward, and requested Muchtar Bey's sabre, which he presented to the Sheik, who took it in his hand, and muttering a prayer passed his mouth over it from hilt to point, and then returned it. The man kissed the back and front of the Sheik's hands, and, having said a prayer, held the sword with both hands by the hilt and by the point, and pretended to strike violently with the edge across his naked stomach. He afterwards knelt down, and put the edge of the centre of the

blade into his mouth still holding the ends with his hands, and pretended to support one of the priest's attendants, who stood upon it. He then exhibited other feats of a similar description; but the whole of these performances were evidently nothing more than mere tricks of the most awkward jugglery. The next exhibition was made by a party of dervishes, who came out from the crowd, and performed some of the ceremonies, which we had witnessed the preceding evening. Three or four of them beat time with straps upon small brazen drums, and moved their bodies from side to side, their gesticulations and movements becoming by degrees inconceivably violent, and their voices louder, and scarcely articulate. Some of them actually went into fits; others foamed at the mouth; and all of them were completely exhausted, which might well be the case, as they had been engaged in these exercises during the whole of the preceding night. We were then informed that live serpents would be devoured, and the Sheik pretended to send out to procure them, but received an answer that none could be found; in fact, this disgusting ceremony had been forbidden by the Pacha; and were similar prohibitions extended in many other instances, it would greatly tend to ameliorate and civilise the people. We then took our leave, much pleased with the civility and attention which had been shewn us; and I went immediately to the Pyramids.

June 15th.

Reis, 10. Men, 202. Children, 194.

Great Pyramid.—Excavation in northern front.
—— Excavation eastward in northern front.
—— Roof in Queen's Chamber.
—— Clearing the chambers and passages.

VASES found in COLONEL CAMPBELL'S TOMB.

Published by J. Fraser, 215, Regent St.

Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Blasting the stones in the pit.
—— Clearing the pavement.
Excavation between the Third and Fifth Pyramids.
Campbell's Tomb.

During my absence the interior of the Great Pyramid had been nearly cleared out. The eastern excavation at the northern front had been completed to the base, where the remains of a pavement were discovered. A considerable progress had been made in the Third Pyramid, and several pieces of granite had been found in the bottom of the shaft; but they appeared to be only fillings in. The removal of the stones in the pit, and of the rubbish from the pavement at the northern front, had been begun. It is to be remarked that although many fragments, both of granite and of calcareous casing, are scattered about the base of this monument, key-stones of granite are only to be found in the lower part, which corroborates the account of Herodotus, that the revetment of that material did not extend to the summit. Considerable progress had been made at Campbell's Tomb, where two large jars of red earthenware had been taken out of the south-eastern angle of the foss; the height of the one was one foot eight and a half inches; of the other, one foot six inches. They were without ornament or inscription of any kind, and were afterwards drawn by Mr. Andrews.

June 16*th.*

Reis, 10. Men, 206. Children, 189.
Great Pyramid.—Excavation in northern front.
—— Excavation westward in northern front.
—— Roof in Queen's Chamber.
—— Clearing the chambers and passages.

Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Blasting stones in the pit.
—— Clearing the pavement.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

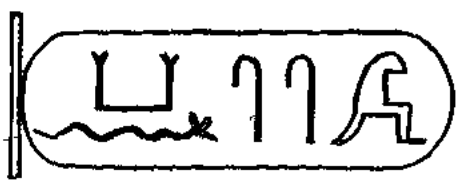
Nothing particular occurred.

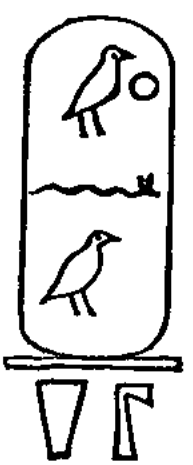
June 17*th.*

Reis, 11. Men, 215. Children, 214.

Great Pyramid.—Excavation in northern front.
—— Excavation westward in northern front.
—— Excavation for base at the north-eastern angle.
—— Roof in Queen's Chamber.
—— Clearing chambers and passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Blasting stones in the pit.
—— Clearing the pavement.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

I copied the cartouches in the tomb of Trades, which





have been alluded to on the 2d instant. The excavation westward in the northern front of the Great Pyramid was finished, and a small piece of iron was found in it completely decayed; but, as it was taken out of the rubbish, its antiquity could not be ascertained. A party was employed in clearing away the sand near the north-eastern angle at the base of the Great Pyramid, to assist the survey.

I returned with Mr. Raven in the evening to Cairo. The night was exceedingly clear, and the general appearance of the city extremely picturesque.

I gave the German officers an order for their reception at our tents on the following morning.

June 18*th.*—I endeavoured to obtain some intelligence from the old Arab, who had told Jack of the communication between the Third and Fifth Pyramids, as I imagined that he must have acquired some information when he was employed by Mr. Jemel; but I found that he knew nothing. He offered, indeed, to shew me ninety chambers full of gold near the Sphinx; but I had already received similar proposals from the high-priest, or head of the Mahommedan religion, whom I accidentally met in Cairo as I was returning from the Pyramids some weeks before; and who also mentioned that he possessed some curious Arabic books respecting the Pyramids, which may possibly be worth the attention of Arabic scholars.

June 19*th.*

Reis, 11. Men, 220. Children, 188.

Great Pyramid.—Excavation in northern front.

—— Excavation for base at north-eastern angle.

—— Roof in Queen's Chamber.

Great Pyramid.—Clearing chambers and passages.
Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Blasting stones in the pit.
—— Clearing the pavement.
—— Excavation for pavement westwards of centre.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

In addition to the works carried on at the northern front of the Third Pyramid, I began an excavation in search of a pavement to the westward of the pit, and determined to remove the granite blocks and other stones which had accumulated near the centre, although, as I have already observed, it was to be presumed that the front of the pyramid had been diligently searched before the great chasm had been attempted with so much labour and expense.

I wrote to Mr. Hamilton, and enclosed drawings of the characters in Campbell's Chamber; I also sent specimens of them, together with the cartouche of Psammeticus the Second[8] to the Colonel himself; and was occupied at Cairo during the rest of the day. Some coarse red jugs marked with black rings were found in Campbell's Tomb, but without any characters or inscription.

[8] It is to be observed, that as the cartouche in Campbell's Tomb is unattended with any regal title, it is difficult, excepting by implication, to ascertain whether it belongs to Psammeticus the Second, of which monarch it is the prenomen, or to Hofphre, of whom it is the name. The former lived, according to Mr. Wilkinson and M. Rosellini, about 603 B.C., and the latter 588. This cartouche, however, is not assigned by Mr. Wilkinson to Hofphre.

These were the only painted specimens of pottery that were discovered.

June 20*th.*

Reis, 11. Men, 211. Children, 208.

Great Pyramid.—Excavation in northern front.
—— Roof in Queen's Chamber.
—— Clearing the chambers and passages.
Second Pyramid.—Roof in Belzoni's Chamber.
—— Excavation for pavement at north-western angle.
Third Pyramid.—Interior.
—— Blasting stones in the pit.
—— Clearing pavement.
—— Excavation of pavement westward of centre.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

I returned with Mr. Perring and Mr. Mash to Gizeh.

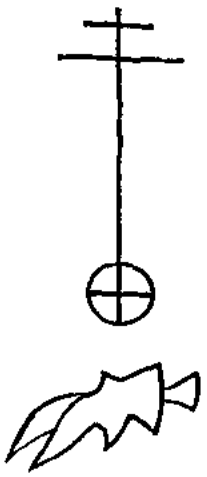
The party in the interior of the Great Pyramid had finished their labours. Some people were sent to remove the sand, which had fallen in upon the former excavation at the north-western corner of the Second.

June 21*st.*

Reis, 11. Men, 210. Children, 197.

Great Pyramid.—Excavation in northern front.
—— Roof in Queen's Chamber.
Second Pyramid.—Roof in Belzoni's Chamber.
—— Excavation for pavement at north-western angle.
Third Pyramid.—Interior.
—— Blasting stones in the pit.
—— Clearing the pavement.
—— Excavation of pavement westward of centre.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

Several more fragments of coarse earthenware were found in Campbell's Tomb. The shaft in the interior of the Third Pyramid was again examined, and a quantity of unburnt brick and clay were found in the joints near the foundation, and also quarry-marks, which had been drawn in red upon the blocks.



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In the evening I was surprised by the arrival of a corps of Lancers, which caused great alarm to the Arabs, who were loitering about the plain after being paid, and who disappeared in an instant. The troops were at first supposed to be on their march to the Faioum; but as they had no baggage, that did not appear to be probable. It was then concluded, from their movements, that they were posted to intercept some Bedouins, but the country was known to be perfectly quiet. At last it appeared that they were the cadets from the establishment at Gizeh, and had arrived for a field-day (or rather a field-night), on account of the heat of the weather. They were tolerably well on horseback, much cleaner than the troops in general, and well mounted. They behaved very regularly, and only requested water from the well, for which purpose a man was stationed there during the night. They probably found the ground between the Sphinx and the Pyramids too much broken up by shafts and hollows to be safely occupied during the night, as the videts, who had been placed there, were in

[9] The symbol ideophonetic of the consonant *n*, and the word *nofre*, or good.—Mr. Birch.

a short time withdrawn; and at day-break, on the following morning, they were posted across the plain in line facing the north, with their left flank to the palm-trees, and with detached parties and a chain of videts to their front and rear. They soon afterwards moved off.

June 22d.

Reis, 10. Men, 193. Children, 155.

Great Pyramid.—Excavation in northern front.
—— Roof in Queen's Chamber.
Second Pyramid.—Roof in Belzoni's Chamber.
—— Excavation for Pavement at south-western angle.
Third Pyramid.—Interior.
—— Blasting *stones* in the Pit.
—— Clearing the Pavement.
—— Excavation of Pavement westward of centre.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

The Sheik of Cafr el Batram applied for stones, under the pretence of constructing a tomb for his brother. He was of course informed that they belonged to the Pacha, and referred to the Madyr. This man had behaved extremely ill; and I have reason to believe that the application was made in the hope that I should make an improper use of the firmaun by acceding to his request.

The sand was sufficiently cleared at the north-western angle of the Second Pyramid: a similar excavation was begun at the south-western. In both places the rock was found to have been levelled and prepared for a pavement, and for a certain distance from the Pyramid it inclined towards it. It had likewise been worked across to the opposite cliffs, in which apartments had been excavated;

and in one of them, containing a shaft, the ceiling had been cut to resemble the trunks of palm trees. This imitation of wooden buildings is very remarkable, particularly in excavations so antient and so peculiarly situated. At Amphipolis, in Asia Minor, and in other places on that coast, the tombs are hewn in exact imitation of wood, but they are of small dimensions, and of inferior workmanship, and also of a much more recent date.

Having been furnished some weeks before with a teskeree for the removal of a quantity of baggage from Cairo to the Pyramids, I had since repeatedly inquired for it, but it was not produced till this morning, and was then given up with great reluctance by the Reis, to whom it had been entrusted. It had been set in a glass case with a cord attached to it to be worn over the shoulder, and had no doubt been let out for hire, and used for all purposes. The abuse of teskerees, and of firmauns granted to travellers, should be prevented, as it gives just cause of complaint to the government, and may eventually lead to bad consequences. European flags are likewise often improperly sold to the Arabs and Copts, as I have already remarked.

June 23d.

Reis, 11. Men, 198. Children, 182.

Great Pyramid.—Excavation in northern front.
—— Roof in Queen's Chamber.
Second Pyramid.—Roof in Belzoni's Chamber.
—— Excavation for Pavement at south-western angle.
Third Pyramid.—Interior.
—— Blasting Stones in Pit.
—— Clearing the Pavement.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

As the shaft had got down to the foundation in the Third Pyramid, it was determined to commence in it from the bottom a series of horizontal galleries at stated intervals in every direction: a number of people were also employed in removing the blocks, and clearing the pavement at the northern front, and in taking down the wall round the pit. If these operations proved unsuccessful, I was resolved to examine every part of the pavement, and even to take down the face of the building; in short, to leave no expedient untried, with whatever expense of money or time it might be attended, to find the mysterious entrance. Little did I then imagine that this was to be effected simply by removing the loose stones that encumbered its front.[1] I considered that this Pyramid, like the others, must at all events have a regular entrance; and *that*, as the shaft had not disclosed a sepulchral apartment, the tomb was most probably in the rock, and that the entrance was concealed by the pavement, particularly as the chamber in the Second Pyramid is an excavation, and as the Tomb of Cheops is described by Herodotus to have been a subterraneous apartment.

Mr. Perring and Mr. Mash continued their survey.

June 24th.

Reis, 11. Men, 201. Children, 180.

Great Pyramid.—Excavation in northern front.
—— Roof in Queen's Chamber.
Second Pyramid.—Belzoni's Chamber.
—— Excavation for Pavement in south-western angle.

[1] M. Belzoni, I afterwards found, had formed a correct opinion as to the entrance.

Third Pyramid.—Interior.
——— Clearing the Pavement.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

To-day I was principally occupied at the Third Pyramid, and found that the joints in the pavement had been forced in different places. The masses of calcareous stone, that had accumulated upon it, were first carefully examined in search of sculpture and hieroglyphics, and then blasted. The removal of the blocks of granite was exceedingly difficult and laborious, but although they may have withstood the unassisted efforts of Arab labourers, they ought not to have proved impediments to Franks.

I returned to Cairo with Mr. Perring, Mr. Mash, and Mr. Hill; Mr. Raven followed us. We found that Mr. Piozan was out of office, that Dr. Walne was appointed vice-consul, and Mr. Maltass, chancellario.

June 25th.—Achmet, the Janissary, was sent to Cairo on account of ophthalmia, and my best workman, Jack, was laid up with the same complaint, and with fever—a circumstance not to be wondered at, considering the dust and heat to which he had been constantly exposed by night as well as by day in the bottom of the shaft of the Third Pyramid. He had been ill for some time, but could not be prevailed upon to give up his work.

June 26th.

Reis, 11. Men, 191. Children, 159.
Great Pyramid.—Excavation in northern front.
——— Roof in Queen's Chamber.
Second Pyramid.—Roof in Belzoni's Chamber.

Third Pyramid.—Interior.
Excavation between Third and Fifth Pyramids.
Campbell's Tomb.
Fourth Pyramid.—Interior.

I remained at Cairo.

June 27th.

Reis, 10. Men, 184. Children, 161.
The same works were repeated.

The air was remarkably hot, and water in my room at Cairo was 96°. I returned with Mr. Hill to the Pyramids.

June 28th.

Reis, 11. Men, 187. Children, 182.
The same works were repeated.

In order to finish Campbell's Tomb, the people were chiefly employed at that place. Mr. Hill and Mr. Raven spent the greatest part of the morning in measuring, and examining the bottom of the shaft in the Third Pyramid, where a large stone, at first supposed to be granite, had been discovered.

In going round the works, I visited the excavation, which had been so long carried on in search of a passage between the Third and Fifth Pyramids. A considerable space had been cleared down to the rock, and the men were continuing their operations to the westward without a chance of success. As they informed me that they did so by Mr. Raven's directions, I allowed them to go on for the present, intending to order Mr. Raven to give up the work. Darè (an Arab, who attended me as a sort of interpreter, from being able to speak Italian) observed, that

if the excavation was continued four or five yards southwards to the base of the Fifth Pyramid, an entrance would probably be found, which might be a guide for that of the Fourth, upon which we had been so long and unsuccessfully employed. I approved of the idea, and gave directions to that effect; and to shew how accidentally these boasted discoveries are often made, the remark of my poor Arab led to the discovery of the entrances of the six smaller pyramids;[z] they were entirely concealed, and no information existed at that time respecting them, but they were subsequently opened without difficulty.

Some glass bottles, small pieces of leaf gold, bones, small illegible coins, apparently bronze, coarse earthenware, and one or two fragments of brass, or of bronze, were found in the foss at Campbell's Tomb.

The air was extremely sultry and hot, but, as usual, about four o'clock, there were strong gusts of wind from the north and north-west. In the evening, the cavalry came again to exercise.

June 29th.

Reis, 11. Men, 182. Children, 179.

The same works were repeated.

[z] The French could not find out the entrances of these Pyramids, and therefore proceeded to take one of them down, to ascertain its interior construction, supposing that it had never been opened. Colonel Coutelle describes the difficulties attending the operation, which was interrupted by the evacuation of Gizeh. It appears, however, by Mr. Salt's papers, that M. Caviglia succeeded in penetrating into one of the Pyramids near the Third, and that he found at the end of a passage two empty chambers, which communicated with each other. As there are sarcophagi in the Fourth and Fifth, and as the Sixth has never been completed, this description does not apply to either of the three.

Fig 1.

Fig 2.

Fig 1. ENTRANCE to the 4th PYRAMID.
Fig 2. ENTRANCE to the 5th PYRAMID.

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Mr. Mash and Mr. Andrews came. I examined with Mr. Raven and Mr. Hill the chasm on the northern front of the Great Pyramid. It had been excavated for the space of twenty feet to the westward, and fifty-four feet to the eastward of the centre to the depth of forty-seven feet, when it became so narrow, that nothing further could be done without blasting. As it was found to be a natural fissure, and did not contain a passage, the work was given up. A piece of stone with some plaster adhering to it was dug up near the Fifth Pyramid, which led me to believe that the entrance was not very distant, and also that it had been opened. Some more pottery was found in Campbell's Tomb, which was at last effectually cleared out. The excavation in the Queen's Chamber was also satisfactorily concluded: the stones of the roof had been carried to a great distance into the masonry, in order to secure the walls of the chamber from any superincumbent weight, and the ends of them were cut so as to give them a perpendicular bearing.

June 30th.

Reis, 11. Men, 177. Children, 158.

Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Clearing the Pavement.
Excavation between Third and Fifth Pyramids.
Fourth Pyramid.—Interior.

In the afternoon, whilst I was examining the ruins near the Second Pyramid, I was informed by an Arab Sheik, that the entrance into one of the others had been found. I immediately hastened to the Third, but upon arriving I found that it was the entrance of the Fifth, which

was thus discovered in two days.[3] The passage was in the masonry and in the centre of the northern front. It had been completely built up with large blocks of stone, laid in cement, and part of them had been cut through so as to allow of a narrow entrance on the western side, which, when discovered, was full of sand; we therefore blocked up the mouth with loose stones, marked with a pencil, and left Goodman in charge of it for the night. A piece of buff earthenware with a green glaize similar to that found in the northern front of the Great Pyramid, and a small copper coin, were dug out of the rubbish near this entrance.

The great stone, supposed to be granite, in the bottom of the shaft in the Third Pyramid, was blasted; the shaft was four feet northward, and thirteen feet eastward of the centre, so that had there been any chamber or passage near that place, it must have been discovered. Mr. Mash copied the hieroglyphics on the great stone that covered the sarcophagus in Campbell's Tomb.[4] He then, in company with Mr. Andrews, examined the joint at the mouth of the southern Air-channel, whence the iron was taken by Mr. Hill.

July 1*st.*

Reis, 11. Men, 220. Children, 183.

Second Pyramid.—Belzoni's Chamber.

[3] The centre of this pyramid is rather to the east of that of the Third. It is built of small stones in irregular courses, none of which are more than two and a half feet in height. Most of the material had been quarried on the spot; but a few blocks from the Mokattam mark the former extent of the building, and shew that it had been at one time cased over with hard stones.

[4] See Appendix.

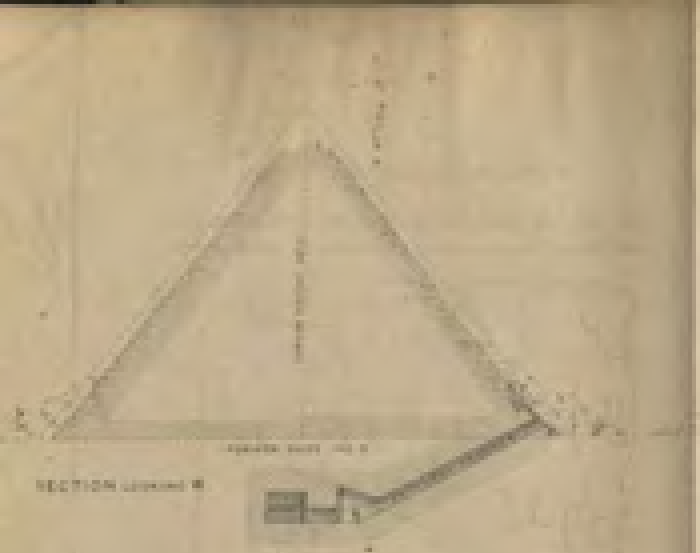
Third Pyramid.—Interior.
——— Clearing the Pavement.
Fourth Pyramid.—Entrance.
Fifth Pyramid.—Entrance.

A small brass or bronze head of an arrow, apparently votive, was found upon the pavement, near the centre of the northern front of the Third Pyramid. The excavation in the Fourth Pyramid was given up, and the people were employed in removing the sand and stones on the exterior of the northern front in search of an entrance, which was supposed to be similar to that of the Fifth. Some of the sand having been taken out of the passage in the latter Pyramid, we tried, but without success, to enter it. In the afternoon, we repeated the attempt. I was followed by Mr. Hill, Mr. Andrews, Mr. Mash, Jack, and Goodman. The passage inclined at about an angle of 27°; and the sand yet remained within two feet of the top; where the part, that had been forced, was so extremely narrow, that we were obliged to enter sideways. The stones appeared to have been cut away by a chisel, which, considering their hardness and the length of the passage, must have been a tedious operation. After sliding down about thirty feet, the space between the stones and the wall would not admit of our proceeding. It was of course intensely hot, and we were obliged to be drawn up by a rope. In the evening, when more of the sand had been taken out, we succeeded better, and found at the bottom of the inclined passage a portcullis of granite, a good deal corroded by moisture, and by the effects of the sand. It must have been conveyed down the entrance obliquely. A hole had been made in it towards the top, and two others at the corners of the ceiling, apparently for the purpose of lifting

it. When the passage had been entirely cleared, this portcullis was lifted up so as to allow of an entrance under it; but when first discovered, we entered by an aperture, which had been made through the rock above it, into a short horizontal passage, which opened into the northern side of the sepulchral chamber. The apartment was quadrangular, and extended in length from east to west. It was about three parts full of stones and sand,[5] which were heaped up nearly to the ceiling at the eastern end, as the rubbish had been partially removed from the western, where a granite sarcophagus was embedded in the pavement, in the same manner as that in the Second Pyramid, to which it was in every respect similar, excepting that it was rather smaller, and that the pinholes for securing the lid were deeper. The lid had been forced off with great violence, and the pavement around it had been taken up. Excepting the immediate entrance, the whole of the passages and chamber were excavations in the rock. Several narrow fissures were visible in the chamber, but the sides had been plastered, and brown horizontal lines, one foot ten inches from the floor, had the appearance of a painted border. No vestiges of sculpture or of hieroglyphics were discovered on any part of the tomb;

[5] The forms and dimensions of the sarcophagi found in the Pyramids at Gizeh will scarcely admit of the wooden cases or coffins adorned with hieroglyphics, which are generally found in Egyptian tombs; indeed, by the fragment found in the Third Pyramid, that wooden case seems to have been of a smaller size and of a different construction. The dimensions of the sarcophagi in the Fourth and Fifth Pyramids corroborate the antient accounts, that they were the tombs of the kings' wives.*

* For dimensions see Appendix.



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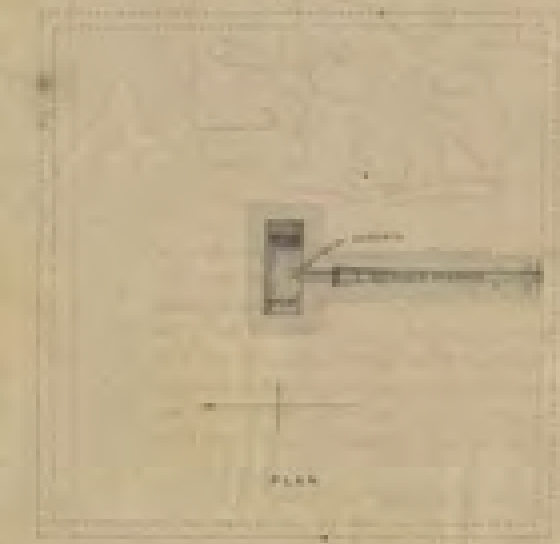


PLAN

FIFTH EASTERN PYRAMID.

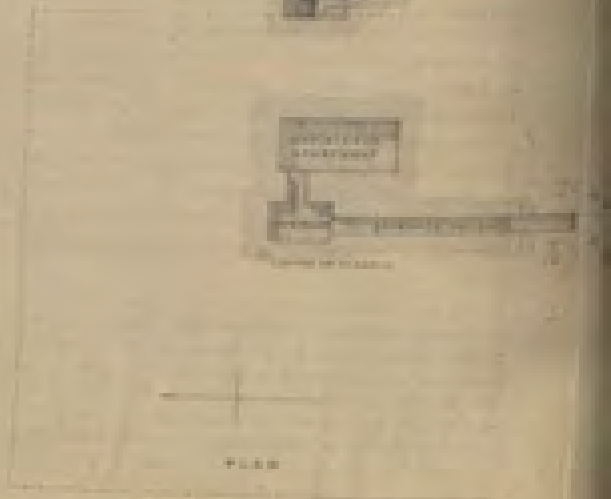
SECTION

PLAN OF BASE

FOURTH CENTRAL PYRAMID.

PYRAMIDS TO THE S.W. OF THIRD PYRAMID.

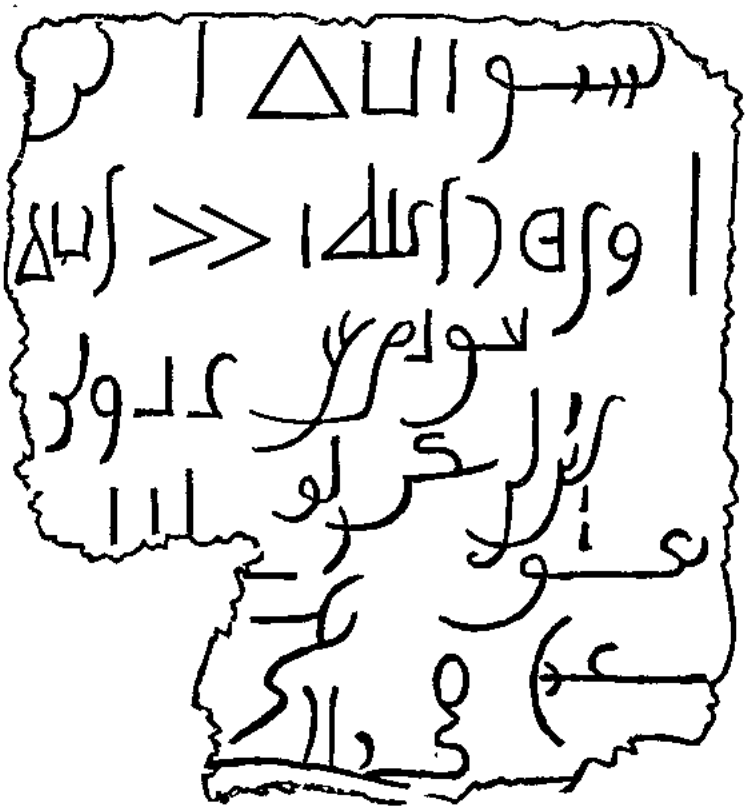
SECTION



PLAN

FIFTH WESTERN PYRAMID.

but upon the southern wall opposite to the entrance, some Arabic characters were scrawled upon a fragment of



plaster with something like charcoal, which proved to be the 112th chapter of the Koran,[6] and which, together with the other inscriptions, seemed to indicate that all these Pyramids had been entered about the same time by the Caliphs. We found in the sarcophagus some pieces of burnt reed and of charcoal, some of the buff earthenware with a green glaize, and a few broken pieces of red pottery. The interior of it appeared to me to have been

[6] See "Sale's Koran," vol. ii. p. 517.

stained and blackened by fire, but Mr. Perring was not of that opinion. It is to be observed, that the fire might have been made by travellers for the purpose of ventilation. This chamber was surveyed and measured by Mr. Mash, and Mr. Andrews, and subsequently examined by Mr. Perring.

After inspecting the other works, and paying off the people, I went in the evening to Cairo with Mr. Mash, Mr. Andrews, and Mr. Hill.

July 2d. — As several of the horses belonging to the Shereef of Mecca, which I saw at the Pyramids, were clever, and as I naturally concluded that he would have some of the highest breed, I sent a message by Ibrahim, my Coptic servant, who occasionally acted as dragoman, with a request to see them. The Shereef returned a very civil invitation, and I accordingly paid him a visit at a handsome palace belonging to Hassan Bey, which had been appointed by the Pacha for his residence. It was pleasantly situated in a garden, in which was the Hareem; and during the inundation, it had the advantage of an extensive lake or pond.

The Shereef was about fifty years of age, had a dark complexion, and a pleasing countenance. He wore a yellow robe, and, like the rest of the people from the Hedjas, a very flat turban. Two of his sons were seated with him on a divan; they were good-looking young men, had very large eyes, and greatly resembled the pictures of East Indian princes in Asiatic designs. They were dressed in the Turkish fashion, but with white embroidered skull-caps, and flat turbans, which were extremely becoming; and they had upon the whole a mild and dignified appear-

ance. The Cadi of Mecca was also present; he had the reputation of being learned, and well-informed, was an intelligent-looking person, and was likewise dressed in yellow. Two other people, who seemed to be dragomen, spoke Italian; and the lower end of the room was filled with attendants.

These Arabs were nearly as black as negroes, and had a more vigorous and independent air than those either of Egypt, or of Syria: one of them I particularly remarked; he wore a red robe, a crooked dagger, in a broad silver scabbard, was stuck in his girdle, and a wahabee handkerchief was thrown over his head; his light frame was replete with vigour; and his thin and handsome features were marked with fierce expression; nothing escaped the vigilance of his sparkling eyes, which glanced from object to object with an eager ferocity peculiar to these wild people.

The Shereef had got Major Felix's book on hieroglyphics, talked much about the Pyramids, and said that he had himself entered the great one. I offered to shew him Mr. Perring's drawings, and the few things of interest that had been found at Gizeh, and he appointed three o'clock for that purpose. When I took my leave, he sent his sons and the Cadi to conduct me to the stables. (See Appendix.) I do not think that they shewed me all the horses, and certainly not any that I had seen before. Those at the Pyramids might indeed have been furnished from the Pacha's stables, or have belonged to some of the other chieftains from Mecca; who, as well as the Shereef, were detained as hostages in Cairo.

I returned at three o'clock with the drawings, &c. The Shereef was more intelligent than any Arab I had

ever met with; he examined the different articles with much attention, and surprised me by observing that he thought the glass bottles taken from Campbell's Tomb had been tinged with iron. I shewed the Arabic writing found in the Fifth Pyramid to the Cadi, who transcribed those parts, that were legible, into modern Arabic characters, and said that it was a passage from the Koran, which afterwards proved to be the case. I gave the Shereef a copy of the cartouche of Suphis, and of some of the hieroglyphics found in the chambers of the Great Pyramid. He seemed to take a great interest in the discoveries, and promised to pay me a visit at Gizeh.

July 3d.

Reis, 11. Men, 169. Children, 159.

Second Pyramid.—Roof in Belzoni's Chamber.
Third Pyramid.—Interior.
—— Cleaning the pavement.
Fourth Pyramid.—Entrance.
Fifth Pyramid.—Clearing out chamber and passage.

I was detained at Cairo.

July 4th.

Reis, 11. Men, 151. Children, 182.

The same works were repeated.

I returned to the Pyramids with Mr. Perring, Mr. Mash, Mr. Andrews, and Mr. Hill.

The roof of Belzoni's Chamber was at length examined. The stones extended, like those in the Queen's Chamber, a long way into the solid rock, on account, probably, of the great weight which they had to sustain. Mr. Raven had been actively employed before the Third

Pyramid, and had found upon the pavement a quantity of unburnt bricks and of earth. Considerable progress had been made in taking out the sand from the interior of the Fifth; but, when a sufficient number of people were employed in it, the air became so exceedingly foul owing to the smallness of the forced entrance, that the candles would not burn, and the heat became insupportable. For these reasons, together with the improbability of making any further discoveries, the chamber was not completely cleared out. For some days, indeed, after the work had been given up, the state of the air from the want of circulation was such, that it immediately extinguished a lighted candle,—a circumstance which the Arabs superstitiously ascribed to the bones, which remained in it. In the course of the day the entrance into the Fourth Pyramid was discovered in the rocky ground, about thirteen feet without the base, and twelve feet westward of the centre. It descended at an angle of twenty-seven, had been originally filled up with masonry, which had been removed, and, as well as the chambers, had been cut in the rock. Nothing was found in the passage excepting rubbish and sand; but some coarse pateræ, a piece of stick, and a broken idol, were dug up near it. Besides the excavations which we had lately made in the interior, a chasm on a level with the base had been previously carried to the depth of twenty-three feet into the masonry at the centre of the northern front. This pyramid and the Sixth (to the westward of it) are built of large squared blocks put together in the manner of Cyclopian walling, and are at present in steps or degrees: whether or not their exteriors have ever been completed into pyramidal forms, it is difficult to determine.

July 5th.

Reis, 6. Men, 160. Children, 85.

Third Pyramid.—Interior.

—— Clearing the pavement.

Fourth Pyramid.—Clearing the chambers and passage.

Fifth Pyramid.—Clearing the chambers and passage.

The interior of the Fourth Pyramid was practicable, and it was carefully examined.[7] The passage conducted to an anteroom, which was coated with white stucco; it contained a quantity of sand and of broken stones; and as the southern side had been forced in search of another apartment, it appears that the first explorers were entirely ignorant of its interior construction. Immediately beneath the roof, a cavity about two feet deep ran along the western side, and extended over the sepulchral chamber, which was ceiled with large blocks of well-wrought calcareous stone, laid horizontally from east to west, and supported on ledges cut in the solid rock, and not on the linings of the chamber; so that, except for the cavity, the roof could not have been formed. This cavity had been closed up with masonry, which was entirely removed, and nothing was found in it, excepting a fragment of grey stone, inscribed with two hieroglyphics.[8] A short inclined passage from the western side of the anteroom, near the north-western angle, communicated with the sepulchral chamber. It had been closed with a door of granite, which

[7] The dimensions are given in the Appendix.

[8] "Giver of life" generally concludes the titles and names of Pharaohs.—Mr. Birch.

had been sufficiently forced out of its place to allow of an entrance; it was afterwards entirely removed, that the sand might be cleared out, and the sepulchral chamber closely examined. This apartment extended from north to south, and had been lined with square slabs laid in cement. The pavement had been taken up in many places. A space of some width had been cut out of the plaster near the ceiling, and another near the floor, round all the sides of the chamber except the southern, apparently for a border; but none of it remained; although in many places the remains of a stripe of brown paint were visible. The sarcophagus appeared to me to have been originally placed upon the pavement, along the southern side, where the lid had been left, together with a considerable quantity of decayed wood, probably the remains of a mummy-board completely reduced to dust; but Mr. Perring was of opinion that it had been placed, north and south, in the centre: we found it near the western side. It was composed of granite, was quite plain, and resembled that in the Fifth Pyramid, but was of smaller dimensions. The dovetail for the lid was rounded (like that in the Third Pyramid); and the holes for the pins were deep. It contained a few bones, a small jaw-bone with remarkably good teeth, apparently that of a young woman, some dust, and a few pieces of decayed wood, in the same state as that near the lid.[9] No hieroglyphics or sculptures of any kind were found on the sarcophagus or on its lid, or upon any stone in either chamber, with the exception of the two characters above mentioned. The walls also of

[9] Mr. Perring mentions that some mummy cloth made of linen was also found, but I did not myself observe any.

both the chambers were perfectly plain; but, upon one of the slabs composing the roof, some hieroglyphics had been described with red paint, and, amongst them, the cartouche of Mycerinus.

From the appearance of the bones, and the small size of the sarcophagus, they seem to have belonged to a female; and from the form of it, and the decomposed state of the wood, and particularly from the general appearance of the masonry, the superstructure may be considered as coeval with the three large Pyramids,—a supposition in accordance with the antient tradition, that these three smaller buildings were the sepulchres of the wives of Cheops, Chephrenes, and Mycerinus. It would be very desirable to find out what has become of the border cut out of the sepulchral chamber, as it doubtless contains an inscription, and it might yet possibly be discovered in some museum or collection of antiquities.[1] The manner of fastening on the lids of the sarco-

[1] The mode of burial in a plain sarcophagus deposited in a pyramid without inscription, or sculpture, is so directly contrary to that usually practised by the Egyptians, in which not only the sarcophagus, but also the whole of the building were covered with hieroglyphics, that both of them can hardly be supposed to have been used by the same people. It seems probable, therefore, that the former was adopted by those mighty strangers, who, according to the most authentic accounts, had possession

phagi with pins appears to have been generally adopted, even when a dovetail—an equally antient contrivance—was not used.

As the entrance of this pyramid was so far to the westward, and the tomb almost under the corner of the superstructure, we concluded that another entrance to the eastward, leading to another tomb, might exist. The excavation was accordingly continued along the outside in that direction in search of a passage; and as the eastern side of the anteroom was within four feet of the centre of the pyramid, it was cut into in the hope of finding another apartment.

Mr. Raven went to Cairo, for engines, chains, &c., to enable us to remove the blocks of granite with more facility.

An illegible coin, a wooden fastening for the load of a camel, and some *tibni* (dried forage), were found near the Third Pyramid, and also a quantity of unburnt bricks, about twenty inches in length, and a heap of earth.

July 6th.

Reis, 11. Men, 141. Children, 94.

Third Pyramid.—Interior.
—— Clearing the pavement.
Fourth Pyramid.—Clearing the chambers and passages.
—— Blasting the eastern wall of the anteroom.
—— Blasting for another entrance.
Fifth Pyramid.—Clearing the chambers and passages.
Sixth Pyramid.—Removing the stones on the northern front.

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of Egypt at a very remote period, but not before hieroglyphics had been invented, and the arts had arrived at great excellence, which might well be the case, as we know, from sacred history, that science flourished before the deluge.

Mr. Hill superintended the works during Mr. Raven's absence.

A small piece of bronze, and some coarse pateræ, were found near the Fourth Pyramid, and a defaced coin and pateræ also near the Sixth. These two Pyramids are similar in their dimensions and external construction. Having discovered that the tombs in the Fourth and Fifth Pyramids were in the rock, we concluded that they were the same in all the rest, and began therefore to search for the entrance of the Sixth, near the centre of the northern front; but, before the sand could be cleared away, it was necessary to remove a quantity of large blocks which had been thrown down from the top, by order of the Pacha, and also, it is said, by the cannon of the French.

I mention the following circumstance to shew the deceit and base habits of the people whom we employed, and the difficulty of maintaining justice and order amongst them. When the people had been paid in the evening, the janissaries brought forward four boys, who had been absent from their work the whole of the day, and had only returned in time to receive their money. As the boys were extremely alarmed, and confessed their fault, I would not allow them to be punished, but sent them away unpaid. It was then reported that six men had also absconded, for which I reprimanded the janissaries, as it was their duty to keep the men at work, and to report any delinquency immediately to me. It was with some difficulty that I could obtain from them the names of the men (which, after all, were incorrect); nor could I satisfactorily make out whether or not any men, in this instance, had been absent; although I knew that it was often the case, and had taken every precaution to pre-

vent it. It was evident, however, that the janissaries had quarrelled with the Reis, for they endeavoured to throw the blame upon them for allowing the men to run away. I gave orders that the delinquents should attend with the Sheik of their village on the following day.

July 7th.

Reis, 11. Men, 139. Children, 152.

Third Pyramid.—Interior.

—— Clearing the pavement.

Fourth Pyramid.—Blasting the eastern wall of anteroom.

—— Blasting for another entrance.

Sixth Pyramid.—Removing the stones on the northern front.

The Sheik of Cafr el Batran attended with the men, but it appeared that they had not been employed at all during the preceding day, and were accordingly dismissed. Upon this the Sheik accused the janissaries of taking money and grain from the people, but could only mention one instance, in which corn to the value of ten piastres had been taken by Osmah from a Reis belonging to Haroneah. I thanked the Sheik for the information, and I immediately interrogated the Reis with Mr. Hill, in a manner the most likely to induce him to tell the truth, when he repeatedly said that Osman had paid for the grain, and that it had not been taken by force. I at first thought of stating the circumstance to the people when they were assembled in the evening, and of demanding if any person had a complaint to make against the janissaries; but, considering that much ill-will might be created, without a possibility of arriving at the truth, I determined to let the matter rest till I again saw the Sheik, which, as it happened, was not for some days.

The works went on well, considering the limited number of men employed, and we had now arrived at a point nearly opposite the centre of the Third Pyramid, where several round holes, similar to those near the Great Pyramid, were found in the pavement. Mr. Raven had sent a small crab, which proved very useful; but we had great difficulty in removing the granite, and, in doing so, constant precaution was necessary to prevent accidents.

Mr. Wright and Mr. Wade came from Cairo. I sent Darè with them into the Pyramids.

July 8th.

Reis, 11. Men, 159. Children, 180.

The same works were repeated.

In the evening, I accompanied Mr. Perring, Mr. Mash, and Mr. Andrews, to Cairo, with Mr. Wade, Mr. Wright, and Mr. Hill.

July 9th. — I went to see a new palace belonging to Shereef Pacha, which was held in such estimation, that Mahomet Ali was said to have expressed a wish to possess it. It was of great extent, and was built round a court-yard. The entrance hall and staircase were flagged with very fine marble slabs, but they were badly put together. The balustrades of the staircase were of wood, painted dark blue; and the landing-place was supported by two common blue posts inserted in coarse stone capitals, which were reversed, and daubed with patches of mortar and plaster, left about the joints. Passages and back staircases led to innumerable apartments; but the principal rooms were entered from a circular landing-place, paved

A LADY OF CAIRO.

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with marble. The wainscot was painted of a dark blue, and was ornamented with festoons of flowers, trophies, and medallions over the door, representing gardens, kiosks, flower-beds, pyramidal trees, and forts receiving and returning the salutes of ships-of-war, that were sailing in irriguous canals — the wretched performances, I was informed, of Greek artists. The carpenters' work, door handles, &c., were miserably executed; and the painted decorations were splashed over with mortar and white-wash. Yet this was considered a well-finished building; in fact, in this country, seclusion in the Hareem, and space and air in the other apartments, are all that is required.[2]

July 10*th.*

Reis, 11. Men, 164. Children, 198.

Third Pyramid.—Interior.

—— Clearing the Pavement.

Fourth Pyramid.—Blasting for another Entrance.

Sixth Pyramid.—Removing Stones at northern front.

I was occupied with Mr. Perring, and with other matters, this day, at Cairo.

July 11*th.*

Reis, 11. Men, 102. Children, 19.

Third Pyramid. — Interior.

—— Clearing the Pavement.

In the afternoon, I went to the Pyramids with Mr. Mash; and near Cafr el Batran, we observed Mr. Raven's

[2] The plate, which represents a lady of Cairo, will give some idea of the exterior of the principal houses. The manner in which the women of rank are carried, and the peculiar sort of saddle (which is said to have

servant on horseback, galloping towards Cairo, from which I concluded, that some bad accident had happened; and upon our arrival, I found that Mr. Raven had received a very severe blow from a crow-bar, which had splintered his jaw and knocked out five of his teeth, and that Abd el Ardie had also been stunned, and much injured. It appeared, that in order to remove a very heavy mass of granite, Mr. Raven and Abd el Ardie had been heaving at a crow-bar, whilst some Arabs were working with another, which, owing to their negligence and idleness, sprung, and occasioned this mischief. It was impossible, without constant exertion, to make these people keep to their work, or hold on, either when lifting or when hauling at a rope; and it is satisfactory to reflect, that during our operations, no fatal accident occurred. Mr. Hill and Mr. Raven went to Cairo.

The excavation in the wall of the anteroom at the Fourth Pyramid had not led to any discoveries, and it was for the time given up, as well as most of the other operations, that the work might be more effectually performed at the Third Pyramid, where great strength was required.

July 12*th*.

Reis, 11. Men, 103. Children, 121.

The same works were repeated.

Mr. Hill arrived by break of day. I examined, with Mr. Mash, the Fourth and Fifth Pyramids.

been first adopted during the time of the Mamelucs), is fully described in Mr. Lane's book. The extreme of fashion seems to consist in the height of the saddle, and in the size of the black satin cloaks.

In the evening, the Sheik of Cafr el Batran came. I sent for the Reis of Harranich, and again questioned him before the Sheik, respecting the corn which was said to have been taken from him by the janissary without payment, when he said, in direct contradiction to his former assertions, that the janissary had so taken it. I immediately ordered the janissary to take the Reis before the Madyr on the following Friday, that the matter might be cleared up, and that his character might be vindicated, which it was out of my power to do. I told him that the Reis accused him of a theft, and that unless he established his character, he should not work under the British flag.

The cavalry again came, and returned home, as before, on the following morning.

July 13*th.*

Reis, 11. Men, 124. Children, 148.

The same works were repeated.

Having been informed by Mr. Hill that Mr. Bagwell and three other Irish gentlemen had arrived, I sent to invite them to my tents, and had the pleasure of their company till the next day.

July 14*th.*

Reis, 11. Men, 102. Children, 149.

Third Pyramid.—Interior.

—— Clearing the Pavement.

Sixth Pyramid.—Removing Stones in northern front.

Mr. Bagwell and his companions went away.

I was employed at the Third and Sixth Pyramids the whole day. As the inundation would soon take place, I

was anxious to enter the Third Pyramid. I had repeatedly sent the janissaries to collect people from the different villages; and I now despatched Ibrahim (the Copt) to inform the Sheiks once for all, that unless they sent more men, they would not receive any bakshish.

July 15th.

Reis, 11. Men, 158. Children, 195.

The same works were repeated.

The Sheik of Koum el Eswith came to arrange about additional people.

A small piece of painted wood and an English patent screw were found amongst the rubbish at the Third Pyramid; but as it appeared from its shape that the latter must have been made within the last eight years, they were probably placed there by the Arabs.

I had sent my servant to Cairo, with the intention of going there myself in the evening; but whilst I was paying the men, a lad was brought in on a man's shoulders, apparently half dead; his white cap and forehead were matted with blood and sand; and he was said to have fallen down the whole depth of the shaft in the Third Pyramid. I ordered them to carry him up to the tents, and requested Mr. Hill to attend to him till I had paid off the people. Mr. Hill came directly to inform me that he was most severely hurt, and must be sent into Cairo without loss of time. As soon as the people were gone, I went up myself, and found the boy lying on an earthen bank, to all appearance, senseless, and an Arab (who called himself his uncle) sitting near him to keep off the flies. His pulse and breathing were regular, and his

limbs warm; but I concluded, that having fallen from such a height, he must necessarily have received some dreadful injury in his head, and I would not, therefore, allow it to be touched. I directed Mr. Hill to set off with Mr. Mash for Cairo, without a moment's delay, and to return as soon as possible with the best medical advice that could be procured. Not long after they were gone, I happened to turn round and saw the boy open his eyes, and close them again as soon as he observed that I perceived it; and upon turning suddenly round a second time, he was looking at, and talking to, the man seated near him; but upon finding himself watched, he resumed his former listless position. I immediately sent after Mr. Hill, to say that medical aid was not required; and I ordered the man to be told that he might attend upon the boy if he chose, but that he would not be paid for doing so. He said, that in that case he should go and take with him the boy; who also expressed a desire to return to his village. I accordingly consented, and the Arab made preparations to carry the boy down the hill, which I would not allow, when the boy immediately got up and walked down without the smallest difficulty. The Arab then carried him across the plain; and having laid him down on the ground, went on to the village, and returned with a crowd of people, who took the boy home with shouts and lamentations. Both the man and the boy returned on the 17th (Monday) in perfect health, and applied for a bakshish,—I need not add, without success. It was afterwards ascertained that the boy had been seated on a ledge of rock at the bottom of the upper shaft, where he was employed to haul on a pulley, and that the tackle having broken, he had fallen down about two feet,

and had grazed his forehead against the side of the shaft. Such was the conduct of these wretched people; and instances of similar behaviour were continually occurring.

Osman (the janissary) had, according to my orders, set out the preceding morning to take the Reis of Haroneah before the Madyr; instead of which, I found they had only gone to Gizeh, where they dined together, and returned in the evening. I accordingly sent for them, and inquired why my orders had not been obeyed. The Reis seemed at first amazingly frightened; but I clearly saw that there was an understanding between them. I therefore told the janissary that he had been accused of being a thief, and of abusing my authority, by oppressing the people; that he had not thought fit to clear his character; and therefore, although he had served me most effectively and zealously since the 13th of February, and although I was extremely sorry to part with him, that I should not keep him any longer. I instantly discharged him, but not without considerable reluctance, as he was by far the best of the janissaries, and extremely useful.

July 16th.—In consequence of the affair of the Arab boy, I remained at the Pyramids. Mr. Piggott, who was staying with a party at the Great Tomb in the plain, paid me a visit. In the evening, my best workman, Jack, got extremely drunk; and although repeatedly sent for, would not attend as usual to take his party of Arabs to work during the night in the Third Pyramid; I was, therefore, obliged to send the Arabs home again, and, much to my regret, to discharge Jack the next morning. Mr. Hill came.

July 17*th.*

Reis, 11. Men, 127. Children, 117.

The same works were repeated.

A good many stones were removed at the Third and Sixth Pyramids, and the pavement near the former was found to have been broken up. The place was filled with rubbish, but could not be examined, as it was necessary to keep the surface level and hard, for the removal of the blocks of granite.

Mr. Warden, a lieutenant of one of the Company's ships, arrived from Suez.

July 18*th.*

Reis, 11. Men, 122. Children, 135.

Third Pyramid.—Interior.

—— Clearing the pavement.

Fourth Pyramid.—Blasting for another entrance.

Sixth Pyramid.—Removing stones on northern front.

As the passages and chambers, in the Fourth and Fifth Pyramids, had been found beneath the masonry, I was not very sanguine about the operations which had been so long and so unsuccessfully carried on in the interior of the Third. They were, however, still continued at night, but the men were taken off during the day, and were employed in blasting stones at the northern fronts of the Third and Sixth Pyramids. Notwithstanding that there still remained a number of heavy blocks on the front of the latter pyramid, we began to remove the sand in search of the entrance.

July 19*th.*

Reis, 11. Men, 140. Children, 151.

The same works were repeated.

The Sheik of Haroneah came in the morning, and engaged to send a number of men—a promise he had often made before, apparently without the smallest intention of fulfilling it. As these people must have been sensible that they were never believed, and could not, therefore, have derived any advantage from falsehood, their conduct could only proceed from "a natural, though corrupt, love of the lie itself" (as Lord Bacon expresses it); perhaps not uncommon in any part of the world, but extremely prevalent in the East.

Mr. Hill brought me a letter from Colonel Campbell, containing the melancholy account of the late King's death.

July 20*th.*

Reis, 11. Men, 130. Children, 136.

Third Pyramid.—Interior.

—— Clearing the Pavement.

Fourth Pyramid.—Blasting for another entrance.

Sixth Pyramid.—Blasting stones in the northern front.

Lieutenant Warden, and two gentlemen who were on their way to India, came in the morning to see the Pyramids, and returned to Cairo at night. Mr. Waghorn was so good as to send a collection of newspapers, and an offer of Selim's services, if I intended to return soon to Alexandria. I wrote to express my acknowledgments, and to request that the janissary might be allowed to

inquire when the Madyr would be at Mabietta, and also to attend as dragoman, when I called upon him, as it was necessary for me to make an application respecting the people employed at the Pyramids.

July 21*st.*

Reis, 11. Men, 136. Children, 109.

The same works were repeated.

In consequence of Selim's inquiries, I went to Mabietta at four o'clock in the afternoon. The Madyr was entertaining several Turks of distinction, who had arrived in the morning with the intention (as it was their Sunday, or Festa) of remaining till the next day. They wore white nizam dresses, and were seated on a divan. A band of Turkish musicians were performing; and I was told, that dancers, male or female, were to be afterwards introduced. Water and fruits were laid out upon a table, and coffee, and small glasses of a very strong spirit, flavoured with aniseed, cinnamon, and other stimulants and spices, were frequently handed round, and appeared already to have had a due effect upon some of the party—they were all, indeed, in great good humour, and seemed determined to enjoy themselves. I was also told, that when they were disposed to sleep, they were partially undressed, and passed the night on the divan in this room, or on that in another apartment, wrapped up in coverlids—a plan which does not exactly coincide with our ideas of comfort. The Madyr attended to me with much civility, and desired that I would put down my wishes in writing. I here again felt the want of a proper dragoman, and could not venture upon any compliments, but confined

myself entirely to common expressions and to business; and I have every reason to believe, that Selim, notwithstanding repeated injunctions, did not say what I told him, but what he thought would best answer the purpose. The Madyr repeated many aphorisms in favour of jollity and mirth, and pressed me to remain for the night, which I would gladly have done out of curiosity, but as I had been employed all the morning at the Pyramids, and had ridden to Mabietta in a high wind, my dress was by no means fit for so much good company. After having therefore taken coffee, and two or three glasses of spirits, I reluctantly withdrew. I was, however, extremely glad to get to Cairo, and to take a Turkish bath—the greatest possible luxury after heat and fatigue. I had the satisfaction of finding that Mr. Raven was going on well; and arranged with Mr. Waghorn that my letter to the Madyr should be translated into Arabic on the following morning.

July 22*d.*

Reis, 11. Men, 149. Children, 136.

The same works were repeated.

Mr. Hill generally remained at the Pyramids during Mr. Raven's illness, and nothing could exceed his zeal and attention.

I wrote a letter to the Madyr, which was translated at the British Consulate. The Arabic version, however, differed so much from what I wished to express, that I enclosed with it the heads of the letter in English, that if any of his people accidentally understood that language, the Madyr might have a chance of being better informed of the nature of my request. When I arrived at the Con-

Fig 1.

Fig 2.

Fig 1. ENTRANCE to the 3d PYRAMID.
Fig 2 ENTRANCE to the 2d PYRAMID.

Published by J Fraser, Regent St.

sulate I found that a letter respecting this business had been previously written at the dictation of Selim, the janissary, and signed by the vice-consul, and that it was on the point of being sent off. I immediately got possession of this document, which, as may be supposed, was not much to the purpose. Affairs of real importance are, no doubt, often transacted in a similar manner, and blame thrown upon the Arab authorities which they do not exactly deserve; at the same time, in many instances, particularly where money is concerned, they are too ready to take advantage of the casual or intentional mistakes of an interpreter, even when they are perfectly aware, from other circumstances, of the real state of the question.

July 23d.—Jack, and Osman the janissary, who had been discharged, were paid off.

July 24th.

Reis, 11. Men, 111. Children, 78.

Third Pyramid.—Interior.

—— Clearing the pavement.

Sixth Pyramid.—Blasting stones in northern front.

I returned to the Pyramids with Mr. Andrews and Mr. Hill.

Nothing further had been discovered at the Fourth Pyramid. It is possible that an apartment to the eastward of the centre might have been originally intended, but not executed. The entrance to the Sixth Pyramid is in the rock, at some little distance from the base, and six feet to the westward of the centre of the northern front. It descended at an angle of thirty, and was full of sand and stones.

July 25th.

Reis, 11. Men, 100. Children, 89.

Third Pyramid.—Interior.
—— Clearing the pavement.
Sixth Pyramid.—Clearing the passage.

Some charcoal was found under the stones in the passage of the Sixth Pyramid; and, soon after the entrance had been cleared, it was again covered over by a number of blocks, which fell from the top of the pyramid, and were not removed without much labour and difficulty. Fortunately no accident happened.

July 26th.

Reis, 11. Men, 110. Children, 98.

Third Pyramid.—Clearing the pavement.
Sixth Pyramid.—Blasting stones in northern front.
—— Clearing the passage.

The excavation in the interior of the Third Pyramid was at length entirely given up, and the men were employed to blast the stones that had fallen over the entrance of the Sixth. They were good workmen, and had attended very regularly for many weeks.

I rode with Mr. Hill a little way into the desert. Nothing was to be seen but a dreary prospect of black craggy rocks, and of extensive hollows filled up with yellow sand. It has never, probably, been explored; and as, in the lapse of centuries, great changes may have taken place, the examination of it for a few miles might afford some curious discoveries.

The remains of mounds, and tombs, and lines (apparently periboli), are to be traced on the high ground to the westward of the Second and Third Pyramids, where the

view of these monuments is very fine; as the ground falls from them towards the Nile, and as the atmosphere over the river, and the alluvial soil, produces the finest aerial effect. The ridge also of the Mokattam is seen in the distance to great advantage.

Heaps of pulverised granite, burnt clay, unburnt bricks, and charcoal were found near the base of the Third Pyramid, which led me to suppose that the entrance had been opened, and that it was not far distant. Some people were employed during the night in removing the stones, that had fallen over the entrance of the Sixth Pyramid.

Mr. Raven returned, contrary to my entreaties, before he was sufficiently recovered, and was therefore obliged by illness, in a few days, to go back again to Cairo.

July 27th.

Reis, 11. Men, 163. Children, 140.

Third Pyramid.—Clearing the pavement.
Fourth Pyramid.—Blasting eastern side of anteroom.
Sixth Pyramid.—Blasting stones in northern front.
—— Clearing the passage.
Seventh Pyramid.—Excavating for entrance.
Eighth Pyramid.—Excavating for entrance.
Ninth Pyramid.—Excavating for entrance.

The Sheik of Cafr el Batran came, and boasted of his zeal in having collected a few more men, who, no doubt, were sent in consequence of orders, which he had received from the Madyr.

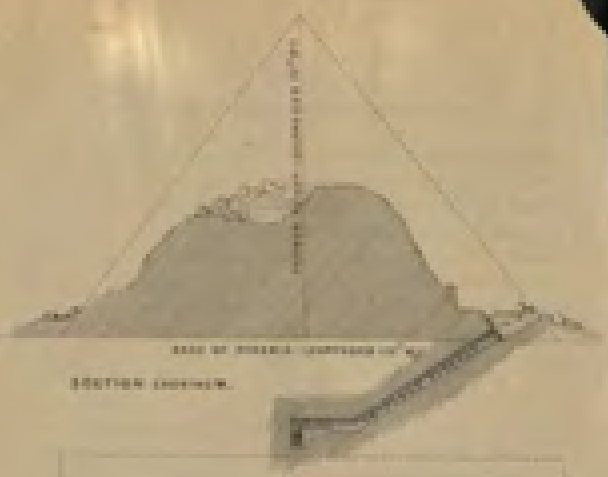
We had arrived at the granite blocks which formed the lower part of the Third Pyramid, and every exertion was used to clear away down to the base. Parties were sent to increase the excavation in the eastern side of the

anteroom in the Fourth Pyramid, and to work at the northern fronts of the Seventh, Eighth, and Ninth, which are situated, as I have observed, to the eastward of the Great Pyramid; the Seventh being the northern, and the Eighth the central. The entrance into the Seventh was evidently beneath a large stone, that appeared, as far as an opinion could be formed in the ruined state of the building, to be in the centre of the northern front, where the sand and rubbish had been thrown up in a ridge by former explorers, so that very little labour was required to arrive at the passage. The superstructure had been nearly destroyed; and there was a large cavity in the centre, which had been covered over with sand.

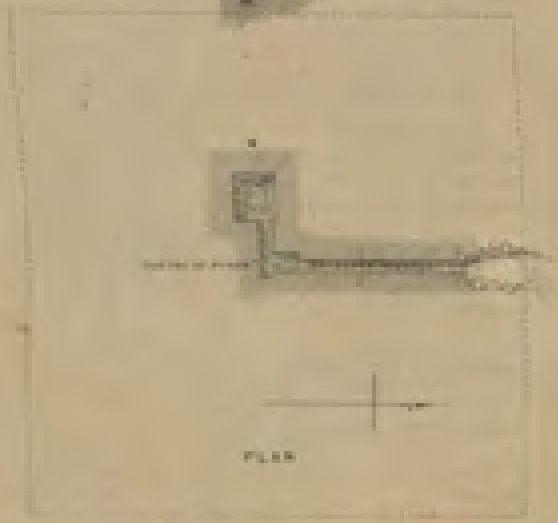
A tent was set up for Mr. Andrews, who was employed in drawing at the Great Pyramid.

I examined the Sixth. At the bottom of the passage we found an anteroom partially filled with sand and stones, that had fallen in by accident; for it had not been closed up with solid masonry, as the interior had never been finished. The chambers had been cut in the rocks, and the marks of a chisel were every where visible. The walls had not been plastered, nor did we perceive any hieroglyphics or sculpture. The sepulchral chamber had been begun from the eastern and southern sides, and had been finished from the top, which was completed; but a considerable part yet remained to be cut out at the northern end, and it had been left in the same state as the western side of the subterraneous chamber[3] in the Great Pyramid. Intersecting lines had been marked with red on the ceiling;

[3] It is evident, therefore, that the latter chamber had never been completed.



SECTION LOOKING W.



PLAN

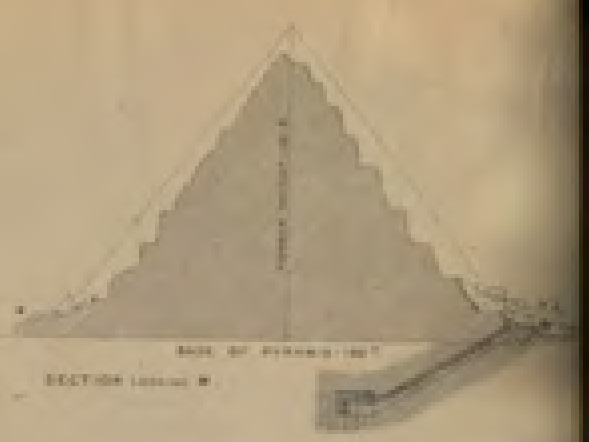
SECOND NORTHERN PYRAMID.

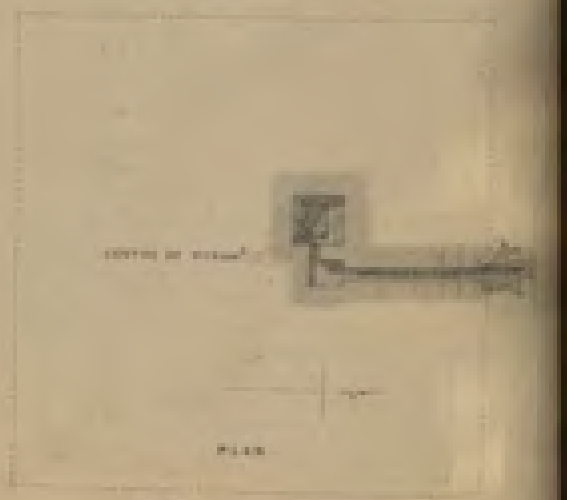
SECTION LOOKING W.

PLAN

EIGHTH CENTRAL PYRAMID.

PYRAMIDS TO THE E. OF GREAT PYRAMID.





PLAN

NINTH SOUTHERN PYRAMID.

another also perpendicularly over the entrance, on the eastern side, and two horizontal lines along the sides of the short inclined passage. The chamber appeared as if the workmen had just left it; it contained chippings and fragments of stone, a small quantity of decomposed wood, and several round stones, that seemed to have been used as hammers, or mallets, two or three of which I brought away. A few black quarry-marks were observed upon some of the blocks near this pyramid.

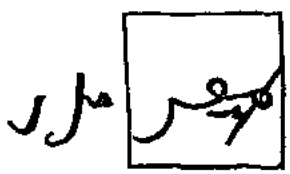
July 28*th*.

Reis, 10. Men, 172. Children, 158.

Third Pyramid.—Clearing the pavement.
Fourth Pyramid.—Blasting eastern side of antechamber.
Seventh Pyramid.—Excavation for entrance.
Eighth Pyramid.—Excavation for entrance.
Ninth Pyramid.—Excavation for entrance.

In going round the works I met several strangers, apparently Franks, near the Seventh Pyramid: and I observed afterwards, with great regret, that the casing-stones at the base of the Great Pyramid, which had been discovered in a perfect state, were injured and broken. Vegetable earth and charcoal were found near the Ninth Pyramid, and a few quarry-marks were observed, which I copied, as I afterwards did some Arabic characters, roughly

[4]



[4] Apparently represents the hieroglyphic bolt used for the letter *s*.—Mr. Birch.

inscribed in a sort of diagram on the large stone over the entrance of the Seventh Pyramid.[5]

As the interior of this monument was accessible, I proceeded to examine it. The whole was an excavation, and encumbered with stones and rubbish. The passage in the centre of the northern front descended at an angle of 33·35 to a vestibule, in which a cutting near the ceiling, and another on the southern side, had been probably intended, either for the fixing of a granite slab at the entrance of the short inclined passage, that led to a sepulchral chamber to the westward, or to facilitate the introduction of a sarcophagus into that apartment. The northern side of this passage was lined with masonry. A quantity of rain-water and drifted sand had also run down from the entrance into a flaw, or chasm, on the eastern side of the vestibule. The sepulchral chamber had been lined with well-finished masonry, consisting of small squared slabs of white stone, which had been entirely removed, with the exception of a few courses near the north-western corner. A shallow recess on the western side might have been intended for the reception of a sarcophagus, which, from some fragments that remained, appeared to have been composed of polished basalt, and to have been quite plain. There were some indications of an air-channel on the northern side, and near it a quantity of the black dust (consisting probably of decayed stone), so often to be seen in these buildings; a few small pieces of bone and of rusty metal were likewise observed amongst the sand, that had drifted with the rain-water, at the entrance.

[5] Mr. Perring states that he found the same inscription over the entrance of the Eighth.

Fig 1. ENTRANCE to the 2ND PYRAMID.
Fig 2. ENTRANCE to the 3RD PYRAMID.

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As this pyramid was sufficiently opened for the purposes of the survey, and as it had been evidently ransacked, and examined in every part, nothing further was done to it. It is, however, possible that some information might be obtained, respecting the origin of this, and also of the Eighth and Ninth Pyramids, if they were entirely cleared out, which might easily be done at a trifling expense.

The entrance into the Ninth Pyramid was concealed under a heap of sand and of loose stones. It was about two feet six inches above the base, and five feet eastward of the centre in the northern front of the building, and descended at an angle of twenty-eight.

As the work proceeded at the Third Pyramid, we found that the rough and unequal surfaces of one or two of the blocks near the centre, in the lower part of the building, had been worked down to a flat surface, which seemed to denote an entrance; and the workmen were accordingly employed at that place.

July 29th.

Reis, 11. Men, 189. Children, 87.

Third Pyramid.—Clearing the pavement.
Fourth Pyramid.—Blasting the eastern side of anteroom.
Eighth Pyramid.—Excavation for entrance.
Ninth Pyramid.—Excavation for entrance.

Mr. Raven was taken ill, and returned to Cairo.

I endeavoured to examine the interior of the Ninth Pyramid; but it was so full of sand and of rubbish that the candles would not burn. It was afterwards found, like the others, to contain an anteroom, connected by an inner passage with a sepulchral chamber, which had been lined and roofed with slabs one foot thick. The walling had been

destroyed, and the place was full of rubbish, but no traces of a sarcophagus were discovered. Some pateræ, pearl oyster shells, earth, &c. were found near the Eighth Pyramid, which shewed that the entrance was not far off; and at one time we imagined that it had been discovered between two inclined blocks at the base; but they proved to be parts of the casing, and the passage was afterwards found in a higher part of the building. Several of the casing-stones remained; they had been roughly chiselled into the proper angle, and then worked down to a polished surface after they had been built, and in many places the latter operation had not been entirely performed; they were as firmly laid as the blocks in the Great Pyramid, and the masonry of the two buildings had a great resemblance; and it is to be remembered that tradition assigns this tomb to Cheops' daughter.

I carefully examined the Third Pyramid whilst the people were at their dinners, and the result confirmed my opinion as to the position of the entrance. I therefore ordered Goodman (who superintended the work) to leave the heap of rubbish and of accumulated sand behind him, and to employ all the people in clearing away the large blocks under the eastern side of the chasm made by the Mamelucs, which I knew to be in the centre of the pyramid, and which also appeared to be the centre of the levelled part of the masonry already mentioned; where the inscription, containing the name of Mycerinus, and described by antient historians, may have been placed. At all events, the entrance into this monument does not appear to have been concealed, although the utmost care has been taken to secure the interior from violation. When the people had come to this work, I

went there, and sent for Mr. Andrews, The stones were removed with great difficulty, particularly a large mass exactly on the spot where I supposed the entrance to be. Its removal proved my conjecture to be right; and I considered that my operations at the Pyramids were at length successfully concluded. I immediately entered the passage, which was completely open, and, notwithstanding several large stones, appeared to be accessible for a considerable distance. I then put a guard on the entrance, and went to the tents to pay off the people.[6]

As soon as they were dismissed, Mr. Andrews and myself returned full of expectation to the mysterious entrance, impatient to examine what had excited the curiosity, and had hitherto been supposed to have eluded the researches of all explorers, and of which no tradition or account, antient or modern, was known to exist.[7]

[6] In returning to the Third Pyramid, Abd-El-Ardi informed me of a subterraneous passage near the Second, which I afterwards cleared out. This man, probably, was acquainted with many other objects of interest, both here and at Saccara; but he did not seem to know of the ruins represented as being to the northward of Abou Reche; the existence of which should be ascertained.

[7] Since this was written I have been enabled, through the kindness of the Earl of Mountnorris, to examine the papers of the late Mr. Salt; and amongst them I found the following extract from a translation by M. Burckhardt, of a passage in Edrisi, who wrote in 623, A.H.; which certainly, as far as it goes, is a contradiction to what I had, before I had seen it, believed to be the case:—"A few years ago the Red Pyramid, which is the Third, or smaller one, was opened on its lower skirt, on the north side; but it is not known who opened it. An alley was found leading down about twenty draas or more, and on its extremity a narrow place, that affords room for one person only; after which a road is entered of difficult and fatiguing passage, where one creeps along upon the stomach for above twenty draas more, until an oblong square room

The entrance, as I observed, was situated thirteen feet above the base, in the masses of granite of which it was composed, and which immediately around the aperture had been levelled to the angle of the upper part of the building, but it did not present any traces of an inscription, or of sculpture.[8] The entrance had been forced, as well as the inclined passage, the sides and floor of which had been carried through the granite blocks for twenty-eight feet two inches, and the roof for twenty-nine feet eight inches, when a large block (B, Pl. I. Fig. 2), was inserted, probably on account of a flaw in the rock. The remainder of the passages, and all the other chambers and communications were entirely excavations. The interior of the passage was rough and uneven, particularly near the entrance, where the joints of the masonry were open and defective, and the ceiling was cut in coves of unequal height. Much of this irregularity was no doubt occasioned

is reached, in which several pits are seen that were dug by those who went in quest of treasures. . From thence another room is entered, the four walls of which are formed by six or seven chambers with arched doors, as are the doors over the small private chambers in the baths. In the midst of the space on the side, and round which these chambers extend, is a blue long vessel, quite empty. The Shereef, Abou El Hosseyn, of the family of Mymoon Ibn Hambe, has told me that he was present when the opening into this pyramid was effected by people who were in search after treasures; they worked at it with axes for six months, and they were in great numbers. They found in this basin, after they had broken the covering of it, the decayed rotten remains of a man, but no treasures on his side, excepting some golden tablets inscribed with characters of a language nobody could understand. Each man's share of these tablets amounted to one hundred dinars."

[8] A polished revetment of granite appears, by the key-stones of that material, to have extended to C. (See section of the Pyramid.)

FIG 1

PLAN.

FIG 2

SECTION LOOKING WEST.

THIRD PYRAMID.

PLANS AND SECTIONS OF PASSAGES &c.

by the violence that had been used in removing the blocks with which the passage, as far as the anteroom, had originally been closed up.[9] It formed, however, in its present state, a strong contrast to the fine workmanship displayed in the passages of the other large pyramids, and also on its own exterior. At the junction of the masonry with the rock, the roof of the passage had been forced, possibly on account of the stone B, which might have been supposed to have concealed an entrance, and an excavation (E, Pl. I. Fig. 2) had been carried up into the solid building, on the outside of one of the steps or stages, of which the interior of this pyramid is built.[1] Beyond the excavation the passage was much encumbered with stones and rubbish, but continued practicable for some distance, as the larger fragments had been piled up along the western side to make room for a man to pass: further down it was entirely filled up with sand and stones. Conceiving that the obstruction extended only for a few feet, I sent Abd-El-Ardi to force his way; but he was unable to proceed, and we were obliged to postpone all further investigation till the rubbish had been removed. Some fragments of common pottery, a small piece of stick,

[9] Mr. Perring is of opinion that, to facilitate the insertion of these stones, a composition of Nile earth and small pebbles was spread on the floor of the passage, down which they slided.

[1] It consists of two sorts of masonry, one infinitely better than the other as to the size of the stones, and as to the workmanship in general; and although the exterior is in one continued line, the bulk of it is constructed in stages, diminishing as they ascend, which were probably the altars, or steps, mentioned by Herodotus at the Great Pyramid, upon which were placed the machines employed in raising the materials; for the courses of stone were not of sufficient width for that purpose.

upon which the bark was tolerably fresh, some twigs, that would almost bend, Tibni (or dried forage), part of an old basket, and a rag of coarse linen, were found in the passage.

From what we had seen, it appeared that the passage had been forced; that an excavation had been carried up from it into the superstructure at the end of the masonry; that it had been reopened at no very remote period; and that, notwithstanding the unaccountable mystery which prevailed about it, the upper part of the passage had subsequently been visited as far as the stones had been piled up. The Arabic characters afterwards found in the interior of this pyramid were similar to those in the Fifth, and most probably to the inscription discovered by Mr. Belzoni in the Second, and they seem, together with the diagrams inscribed over the entrances of the Seventh and Eighth, to prove that all these monuments were visited nearly about the same time by Mahometans. It is surprising, therefore, that any uncertainty should have existed respecting the entrance of the Third Pyramid, and much more so, that the two chasms should have been undertaken with so much labour and expense by the Mamelucs before the lower part of the pyramid had been examined; for the entrance was chiefly concealed by the masses of stone and rubbish occasioned by these works.[2] These considerations influenced my researches, and they seem, also, to have misled many other explorers, who, instead of examining the lower part of the building, sought for the entrance in the pit, and in the exterior

[2] A few of these blocks were removed by Mr. Belzoni, who appears to have guessed with great exactness the position of the entrance.

pavement. It may also be remarked that the height at which the chasms were made, the excavation at E, and those which will be subsequently mentioned in the interior of the pyramid, shew that, even after the large apartment had been entered, although probably before the tomb itself was discovered, a strong idea prevailed that chambers existed in the upper part of the edifice,—an opinion, however, which these excavations, and the gallery and shafts lately carried down to the foundation, prove to be unfounded.

I returned with Mr. Andrews to the tents.

July 30*th.*—Mr. Hill, Dr. Walne (the vice-consul), and Mr. Trail (Ibrahim Pasha's gardener), dined with me and returned in the evening. The doctor's visit was most fortunate, as my carpenter had a sudden attack of fever, for which he kindly prescribed.

July 31*st.*

Reis, 11. Men, 87. Children, 85.

Third Pyramid.—Clearing out entrance.
Eighth Pyramid.—Excavation for entrance.
Ninth Pyramid.—Clearing out the chamber.
Sphinx. Blasting for the boring-rods.
Excavation for shaft at the south-western angle of Campbell's Tomb.
Pumping in shaft between Campbell's Tomb and Second Pyramid.
Subterannean passage near the Second Pyramid.

A party was sent to take up the pavement at the south-western angle of Campbell's Tomb, which was thought to conceal a shaft like that at the south-eastern angle. None, however, was found. Some people were also employed to get out the boring-rods left in the

Sphinx, which, for reasons already stated, they did not effect.[3] The pump was lowered to the bottom of the shaft between Campbell's Tomb and the Second Pyramid, but it could not be worked owing to the badness of the hose. All that could be done, therefore, was to observe whether the water kept the varying level of the river during the inundation. Mr. Perring's observations are given in the Appendix; but the subject is well worthy of the attention of future explorers, and may be carried on with great advantage if a proper hose is obtained, as the pump was left with Mr. Hill, and as the sand has been taken out of the shafts. A considerable quantity of water, no doubt, exists, and may have been collected for religious purposes.

The general direction of the souterrain, near the Second Pyramid, was east 1½ point north, and west 1½ point south. It appeared to have contained a communication, made out of a natural fissure, and was roofed over with slabs to form a level surface; indeed a passage may even now exist, for we did not thoroughly examine it, but only removed a sufficient quantity of sand, to ascertain its direction and length. We entered it by a pit, made either by former explorers, or by the accidental failure of the roofing-stones, which have here fallen in for the space of twenty-two feet. This pit was about fifty feet from the south-western angle of the temple, and about two hundred from the pyramid. The channel was covered over with slabs for thirteen feet to the westward, beyond which it became a narrow fissure. It extended to the

[3] The fossil found at this place, as mentioned vol. i. p. 275, has every appearance of being that of a reed: but I understand that it is considered at the British Museum to be the spine of a large echinus.

eastward sixty-five feet, it was about four feet wide, and was completely full of sand. One or two trifling fissures branched off from it, but the sides were very regular, and the working of a chisel might in many places be observed; the eastern end, indeed, to the length of six feet is entirely artificial, and ends abruptly in the rock. It may possibly communicate with sepulchral shafts, or be connected with the water, and deserves a stricter investigation than I had time to bestow upon it.

I have mentioned, that the ground in many places sounds as if it were hollow; and I have no doubt, that it contains a number of curious excavations; but the vast body of sand which has accumulated from various causes, makes it impossible, without much time and labour, to ascertain the different levels and foundations, much more to form a general idea of the whole. It is probable, however, that advantage was taken of the quarries from which the stones were cut for the Pyramids; and as that operation would naturally be guided by the quality of the material, that no regular plan was followed as to the position or size of the tombs.

August 1*st*.

Reis, 11. Men, 138. Children, 84.

Third Pyramid.—Clearing out the passages.
Eighth Pyramid.—Excavation for entrance.
Ninth Pyramid.—Clearing out the Chamber.

Mr. Perring, Mr. Mash, Mr. Raven, and Mr. Hill arrived. The passages of the Third Pyramid were at length practicable, although a quantity of sand and rubbish yet remained in them. Indeed, the anteroom, the chamber with the portcullis, and a considerable part

of the long passage proceeding from them, were filled up with sand to within two feet of the ceiling; but the large apartment, and the rest of the pyramid, were only encumbered with stones and rubbish, produced by former excavations and by decay. The inclined entrance has been already described. It was of considerable length, and terminated in a short horizontal passage (see Plates I. and II.) that lead to the anteroom, the walls of which were covered with white plaster, worked in compartments. (See Plate II. Fig. 7 and 8.) Directly opposite the entrance into this room, a door-way of the same size opened into a narrow chamber (Plate II.), which had been filled up with three portcullises, placed across it from east to west.[4] The middle of the anteroom had also been blocked up by large stones laid across it from north to south, which had completely closed both door-ways. Two of them remained in their original position. The rest of the anteroom had not been filled up;[5] and the southern side of it to the eastward of the door-way into the cham-

[4] The dimensions are given in the Appendix; but reference is necessary, in this and in many other instances, to Mr. Perring's "Plans of the Pyramids," published by Mr. Fraser, of Regent Street, which will give a clearer idea of them than can be conveyed in this work.

[5] The slabs of granite forming the portcullis, were, according to Mr. Perring's observations, conveyed down the passage angle-ways, and introduced from the anteroom, by the openings A A, on each side of the door-way, into the upper part of the chamber of the portcullis B, and there inserted into grooves prepared for them. The openings A A were afterwards filled up with masonry. The holes *a b c* were probably for the insertion of beams to sustain or move the portcullis: there are corresponding holes on the opposite side. The slabs were destroyed in forcing the Pyramid, but part of the granite heading was found in the anteroom. —(See Plate II., south end of room restored, D.)

Fig 2

SECTION LOOKING WEST.

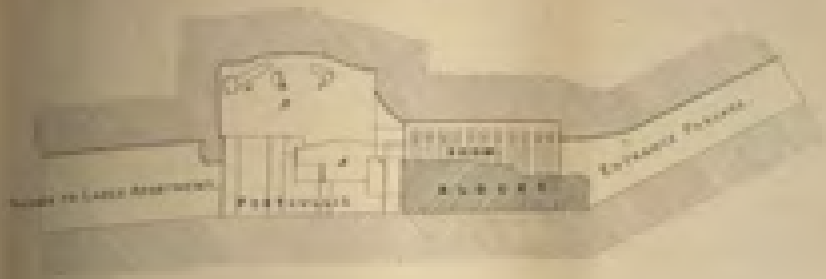


Fig 3

South End of Room

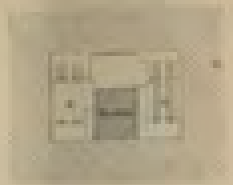


Fig 4

North End of Room

Fig 5

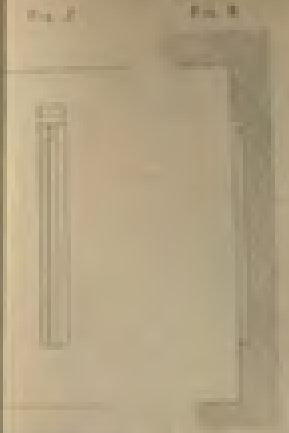


Fig 1.

PLAN

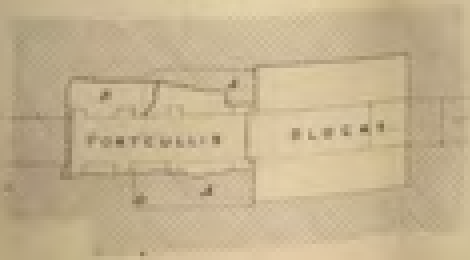


Fig 6

South End of Room

Fig 7

THIRD PYRAMID

SMALL ANTE ROOM AND PORTCULLIS

ber, containing the portcullis, had been cut into, in order, as it would appear, to avoid the necessity of breaking down the slabs of granite forming the portcullis, which might reasonably have been supposed to have concealed a tomb; but, as this did not prove to be the case, the excavation had been turned to the right, so as to enter the eastern side of the chamber containing the portcullis, as shewn by the dotted line D (Plate II. Fig. 1). A passage, almost horizontal (as it had only four degrees of declination), proceeded from the portcullis to the south, and entered the northern side of the large apartment. Immediately above it, another passage, at first horizontal, and afterwards inclining upwards (see Plates I. and III.), returned towards the north, and ended where the masonry of the pyramid commenced. This passage had been worked by the chisel from the exterior or north, the other passages from the interior or south. It must, therefore, have been formed before the other passages and chambers, as the large apartment probably was also. At the end of it, in the masonry, at C (Plate I. Fig. 2), various excavations had been made in different directions into the superstructure in search of a chamber, to which it might have been imagined to conduct, for it had been filled up with solid masonry — fragments of which yet remain, and also part of the plaster upon the sides of it. The mouth of this passage in the large apartment[6] (see Plates I. and III.) was worn into grooves, apparently by

[6] This passage, like that discovered by M. Caviglia in the Second Pyramid, was probably formed for the sake of supplying air to the people employed in the subterraneous chambers; or it may have been originally intended for the regular entrance, and the plan may, for some reason or other, have been altered.

chains or ropes, which may have been employed to convey the workmen and their tools into it, or the stones and rubbish made by these excavations out of it,[7] of which a considerable quantity was found in the apartment, particularly at the eastern end. This room had a flat ceiling, and was divided at some little distance from the western side by pilasters, *e e* (Plate III., Figs. 1 and 2), and by an architectural ornament on the roof, *f* (Plate III., Fig. 2).

At the western end, and near the north-western corner, a short passage, G (Plate III., Fig. 2), led to a hollow of inconsiderable height, H (Plate III., Fig. 2), floored by the reverse of the blocks of granite that form the coved roof of the sepulchral chambers immediately beneath it. The blocks extended from east to west, and met in a ridge in the centre. Their reverse ends were lodged in deep groovings cut into the rock, and they were kept down in their places by pieces of stone laid upon them.

The rock was partially covered with a sparry excrescence, which had the appearance of white feathers, and was of the same nature as that discovered in the chambers of the Great Pyramid. The entrance to the short passage G (Plate III., Fig. 2) had been closed up with solid masonry, and concealed by a coating of plaster. It had probably been forced in search of the tomb, and seemed to have been much frequented, for the large masses of stone left within it were worn and glazed over by the constant passing and repassing of a

[7] These excavations, in some degree, account for the facility with which the workmen in the shaft had been heard on the outside of the pyramid over this spot.

Fig 2
SECTION looking NORTH

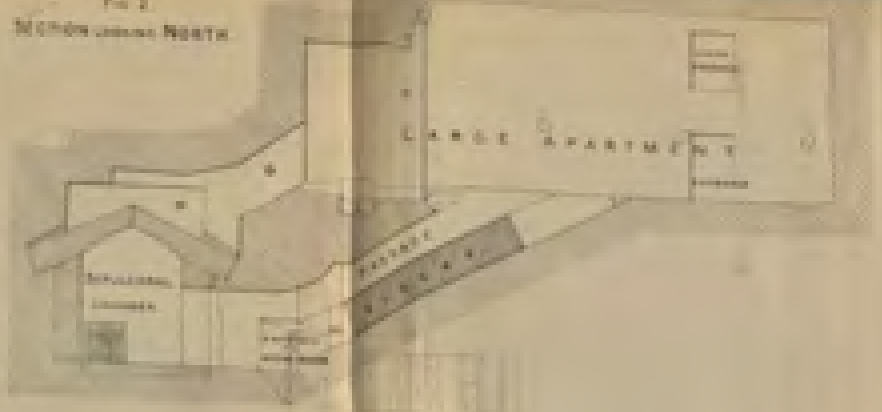


Fig 1
PLAN

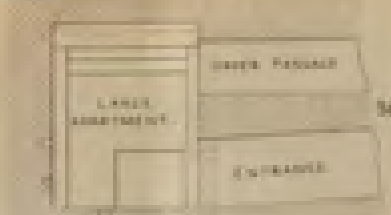


Fig 3
SECTION looking WEST

Fig 4
PLAN of SEPULCHRAL CHAMBER AND NICHE ROOM

Fig 6 GRAMPS in WALL Fig 7

Fig 5
SECTION of SEPULCHRAL CHAMBER

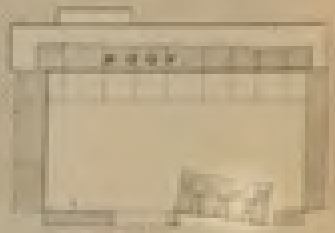
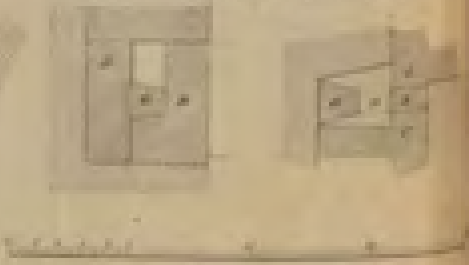


Fig 8 CRAMPS in WALL Fig 9



THIRD PYRAMID
APARTMENTS &c

concourse of people. The large apartment was forty-six feet three inches in length; and when the rubbish was entirely removed, the floor for thirty-one feet from the eastern end, was found to be rock, and the rest to have consisted of a pavement, in which a place for a sarcophagus had been sunk (Plate III., Figs. 1 and 2).[8] We are informed by Herodotus, that the body of an inferior person was sometimes placed in the ostensible sepulchre to prevent any further inquiry after the principal tomb, as is mentioned respecting that of Amasis—an expedient which seemed to have been contemplated, but not actually put in practice in this instance; for not a vestige of a sarcophagus was to be discovered, which must have been the case if one had been introduced, as the communications, particularly through the anteroom, had not been sufficiently cleared for its removal. The pavement had been entirely destroyed.

The circular holes in the sides and floor of the apartment were probably intended to receive beams for the support of a scaffolding used in trimming and finishing the walls, or to assist in the deposition of the sarcophagus in the sepulchral chamber.

At the distance of seventeen feet from the eastern end of this apartment, an inclined passage, which had been no doubt originally concealed by the pavement, descended to the sepulchral chamber nearly in the same

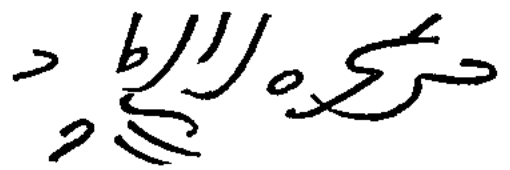
[8] Mr. Perring mentions indeed that a number of small pieces of red granite were found among the rubbish in the large apartment; but granite was used in the portcullis, and in the sepulchral chamber; and some undoubted fragment of the sarcophagus must have been found if one had really been placed there.

manner as those in the tombs at Thebes. It contained a quantity of rubbish, and also of black dust,[1] apparently the exuviæ of insects and of bats, likewise several large stones, which had the same appearance of having been rubbed and worn, as those already described. When this passage was cleared out, it was found to have been built up with ramps, and with blocks laid upon them after the sarcophagus had been placed in the tomb, and to have been closed at the lower end with a portcullis of granite (Plate III., Fig. 2, m) The passage entered the eastern side of a sepulchral chamber, which extended north and south, and was entirely composed of granite. I have already said that the blocks, which composed the roof, met in a ridge in the middle, and were cut into the shape of a pointed arch. The floor had been formed of large masses well put together, several of which had been taken up, and were lying in the apartment. The linings of the walls had also been searched; they consisted of slabs, two feet six inches thick, and were in many places stained by secretions from the rock, and by a quantity of white fungus. Two cramps were found in the western wall (see Plate III., Fig. 6, 7, 8, 9). The stones A B C were kept in their places by the dovetail cramp G, and the wedge-formed piece D, resting against the side of the excavated rock behind, served to keep the whole together. No sculpture, or inscription of any kind,

[1] A good deal of this deposition was also found in the large apartment; and the dung of large birds, probably of vultures, appeared in many places, particularly on the sarcophagus, and seemed to have been there for many years.

SEPULCHRAL CHAMBER, THIRD PYRAMID.

was discovered, excepting some rude and unconnected Arabic words and characters[2] scrawled with something like chalk on various parts of the walls, and on the inside of the sarcophagus.[3] The only words that could be made out were Mahomet Rasoul over the entrance. The sarco-



phagus is supposed to have been originally placed in the centre of the chamber, to which its proportions were very similar, but it had been moved, and was found

[2] As soon as these writings were discovered, I sent to the Shereef of Mecca to request permission for the Cadi to examine them, who, on the 2d of July, had explained those found in the Fifth Pyramid. The Cadi was at Alexandria, but the Shereef was so good as to send two other persons on the 3d inst., as will subsequently be seen, but they could only make out the above words; and, I was afterwards informed, thought proper to say, that I had myself written them. I then endeavoured, but without success, to procure persons from Cairo who understood antient Arabic characters. From the desultory manner in which these writings are scrawled over the walls and ceilings, I do not however believe that they have any connected meaning. They are probably the names of visitors or of workmen, or, perhaps, a few phrases from the Koran. I tried in vain to copy them; they were extremely faint, and could not be made out.

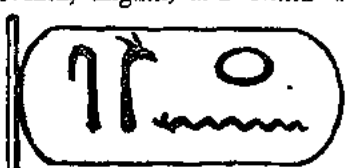
[3] As the sarcophagus would have been destroyed, had it remained in the pyramid, I resolved to send it to the British Museum. The difficulties with which Mr. Raven had to contend in this operation, were not trifling. One of the ramps in the inclined passage was to be removed in order to get it into the large apartment, where it was placed upon trucks, and the blocks in the anteroom having been got rid of, it arrived at the bottom of the entrance passage. By means of a number of men, and of a crab at the mouth of the pyramid, it had been conveyed half way up, when, owing to the roughness of the bottom, the trucks on one side

in the position represented. (See Plate III., Figs. 2 and 5.) It was entirely empty, and composed of basalt, which bore a fine polish of a shaded brown colour, but was blue where it had been chipped off, or broken.[4] Some sharp substance, such as emery powder, had been used in its construction, and it appeared to have been sawn, which is remarkable, as the art of sawing marble was not known at Rome till a late period.[5] It was finely carved in compartments, and the ornaments upon it resembled in some degree the architectural decorations in the tomb of Numbers, and those carved upon two blocks of stone now exhibited in the British Museum, and which formerly belonged to the collection of the late Mr. Salt.

gave way. As they could not be repaired for want of space, the sarcophagus was slowly lifted by levers, and got out by degrees; which, considering that its weight was nearly three tons, was an arduous undertaking. It was, however, at last safely hauled out, and placed on a proper carriage, in which, with the assistance of planks, it was drawn over the rocks and sands to the tents, and afterwards cased with strong timbers, to be sent to the British Museum. It was embarked at Alexandria in the autumn of 1838, on board a merchant-ship, which was supposed to have been lost off Carthagena, as she never was heard of after her departure from Leghorn on the 12th of October in that year, and as some parts of the wreck were picked up near the former port.

[4] A piece of it has been sent to the British Museum.

[5] Mr. Perring has since discovered, in two tombs to the south of the Seventh, Eighth, and Ninth Pyramids, a complete representation of



the end of this sarcophagus, with the lid upon it. The hieroglyphics in these grottoes are greatly defaced, but they contain this cartouche, which is also given by Signor Rosellini (Tom. I., tav. ii., 32), by Mr. Burton in his "Excerpta," and has been since discovered in the pyramids at Abouseir.

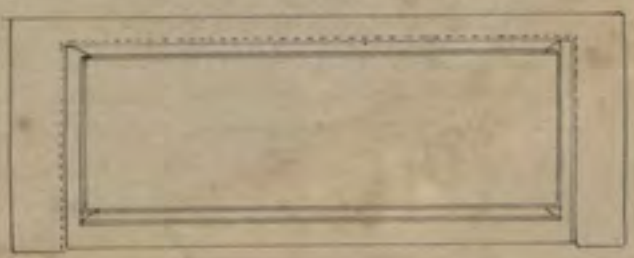
END ELEVATION

SIDE ELEVATION

TRANSVERSE SECTION

LONGITUDINAL SECTION

PLAN WITH LID
REMOVED



THIRD PYRAMID.

SARCOPHAGUS WITH LID RESTORED.

J.S. Perry, del. Day & Haghe Lith.rs to the Queen.

Published by J.S. Perry, 158 Regent St.

The sarcophagus did not bear any inscription or hieroglyphics. The lid had been fixed by two pins in the usual manner, and also by a dovetail, which was rounded; and a plate of metal seemed to have been applied so carefully underneath it, that in order to insert a lever for its removal, it had been found necessary to cut a groove across the rim of the sarcophagus. The lid was not found in the sepulchral chamber, but pieces of it were afterwards discovered.

At the bottom of the southern side of the passage, leading to the sepulchral chamber, a recess had been formed (something like that in the lower horizontal passage in the Second Pyramid), and on the opposite side a flight of seven steps opened into the southern end of a room, which were three feet below the level of the passage. (See Plate III., Fig. 4.) This room was rectangular, but not square with the sepulchral chamber, as it lay 25° east of north; a position evidently intended, together with the above-mentioned recess, to facilitate the removal of the sarcophagus between this and the sepulchral chamber. It contained four niches or compartments on the eastern side, and two on the northern; one of the latter, it is to be observed, had an inclined direction, apparently for the purpose of receiving some solid substance of considerable length. This room was half full of rubbish, and several Arabic characters had been scrawled on the ceiling. It was probably intended for funereal ceremonies like those at Abou Simbel, Thebes, &c.

When the large apartment was finally cleared out, the greater part of the lid of the sarcophagus was found (as I have already stated) near the entrance of the passage descending to the sepulchral chamber; and close to it

(see F, Plate III., Fig. 1), fragments of the top of a mummy-case (inscribed with hieroglyphics, and amongst them, with the cartouche of Menkahre) were discovered upon a block of stone, together with part of a skeleton, consisting of ribs and vertebræ, and the bones of the legs and feet[6] enveloped in coarse woollen cloth of a yellow colour, to which a small quantity of resinous substance and gum was attached. More of the board and cloth were afterwards taken out of the rubbish. It would therefore

[6] These relics are in the British Museum. Not being present when they were found, I requested Mr. Raven, when that gentleman was in England, to write an account of the discovery, in order that it might be published:—

"Sir, "*London*, 11*th July*, 1838.

"By your request, I send you the particulars of the finding of the bones, mummy-cloth, and parts of the coffin, in the Third Pyramid. In clearing the rubbish out of the large entrance-room, after the men had been employed there several days, and had advanced some distance towards the south-eastern corner, some bones were first discovered at the bottom of the rubbish; and the remaining bones and parts of the coffin were immediately discovered altogether: no other parts of the coffin or bones could be found in the room; I therefore had the rubbish, which had been previously turned out of the same room, carefully re-examined, when several pieces of the coffin and of the mummy-cloth were found; but in no other part of the pyramid were any parts of it to be discovered, although every place was most minutely examined to make the coffin as complete as possible. There was about three feet of rubbish on the top of the same; and from the circumstance of the bones and part of the coffin being all found together, it appeared as if the coffin had been brought to that spot, and there unpacked.

"I am, Sir,

"Your most obedient servant,

"To Col. Howard Vyse." "H. Raven.

seem that, as the sarcophagus could not be removed, the wooden case containing the body had been brought into the large apartment for examination.

Whoever may have been the first explorers, it is clear that at one period this pyramid remained open for a considerable time, and was then much frequented by Mussulmen, and that it was afterwards closed up for many years, otherwise some accounts respecting it, more circumstantial than that in Edrisi, must have existed, and recent traces of bats and of reptiles would have been found in it.

The great efforts, which had been made to get into the higher parts of the building, were very extraordinary, and the precautions, which had been taken to secure the tomb from violation, were no less remarkable; the ponderous masses of granite, and of calcareous stone, with which the whole of the entrance was filled up as far as the anteroom, the blocks, which secured that apartment, the three portcullises in the smaller chamber, the squared stones, with which the upper returning passage was built up, the concealment of the immediate entrance to the tomb by the pavement of the large apartment, and the manner in which that passage was closed up with a portcullis of great thickness, with ramps, and finally with solid masonry, indicate the veneration in which the sepulchre was held, and therefore the importance of the personage, to whom it belonged.

August 2d.

Reis, 11. Men, 137. Children, 83.

Third Pyramid.—Clearing the Chambers and Passages.

Eighth Pyramid.—Excavation for Entrance.

Ninth Pyramid.—Clearing out the Chamber.

Excavating the lines westward of the Second Pyramid.

As I had at length discovered the entrance of the Third Pyramid, I was anxious to finish my operations as soon as possible, and employed parties by day and by night at the Third and Eighth Pyramids. A number of parallel ridges, to the westward of the Second Pyramid, however, excited my attention, and I conceived that they might have been the burial-places of the common people, like those at Tarquinia, in Italy. Some of them were in consequence cut through, but they were found to be composed of stones and sand, and their origin was not discovered.

I sent Ibrahim, the Copt, to inform the Shereef of Mecca, that the Third Pyramid was opened, and, as I have already mentioned, to request the assistance of the Cadi to read the inscription. The Shereef returned for answer, that the Cadi was at Alexandria, but that he himself would come on the following day to the Pyramids. I also sent to Cairo for people who understood antient Arabic characters, but I could not prevail upon them to attend.

Mr. Brettel arrived. We examined the interior of the Third Pyramid, and also measured the subterraneous passage near the temple of the Second.—(See *July* 31.)

In the course of the day, the entrance into the Eighth Pyramid was found eight feet nine inches above the base, in the centre of the northern front. It had an incline of 34·5; but was choked up with sand, so that the candles would not burn, and the examination of it was necessarily postponed. I then entered the Ninth, which has been already described.—(See *July* 29.)

August 3d.

Reis, 8. Men, 119. Children, 55.

Third Pyramid.—Clearing chambers and passages.

Eighth Pyramid.—Clearing chamber and passage.

I called on the Shereef of Mecca, who was encamped at the edge of the arable ground near the northern dyke; and, when I took my leave, he sent a Coptic secretary and an Armenian, to read the inscription in the Third Pyramid. They began by copying the diagram on the great stone over the entrance of the Seventh. The Copt then entered the Fifth, and looked at the writings, which the Cadi had already partly deciphered. Both of them afterwards examined the characters in the Third, as I have already mentioned.

Having dismissed these persons, I entered the Eighth Pyramid, and found in the anteroom twelve or thirteen skulls, and a bronze armlet, with a piece of brown stone shaped like part of a female hand, which was remarkable, as the building was supposed to have been the tomb of the daughter of Cheops. The entrance-passage and sepulchral chamber were on the same plan as those in the Seventh and Ninth Pyramids; the masonry had been pulled down in search of other apartments; and a quantity of bones and broken mummy-cases were found in it, by which it would appear that it had been subsequently used as a general place of sepulture; but there were not any remains of a sarcophagus. I did not think it worth while to be at further trouble or expense about these tombs, as they had been completely ransacked.

The Shereef of Mecca dined with me. He came with a large suite, and was accompanied by his two sons, and

by another Shereef Sheahyeah, an old man, to whom great respect was paid, the whole party rising up on his approach. The tent was too small for so large a party; and a Turkish dinner, consisting of a sheep roasted whole, and a variety of hot dishes, under such circumstances, together with the extreme heat of the weather, was a most disagreeable affair. Mr. Andrews excited much curiosity by his Oriental costume, and knowledge of Arabic manners; my guests, indeed, would scarcely believe that he was a Frank. We afterwards rode round the Pyramids, and the Shereef returned to his tents.

August 4th.—The people were paid by Mr. Raven.

The Shereef called upon me early in the morning on his way to the Pyramids, before I was ready to receive him. I joined him at the Second, where I found him seated upon the ground, to observe some Arabs, who had been sent over the casing-stones up to the summit for his amusement. Upon arriving at the Third Pyramid he dismounted, and, much to my surprise, took off his turban and robe, and accompanied me into the interior. He examined every part of it with attention, and seemed much interested with such information as I was enabled to offer. One of his sons, and two or three of his suite, followed his example. When we returned I introduced Mr. Raven, who explained the use of the crab in the removal of the stones, and set it to work, that he might witness its effects. He then went back to his tents.

The cavalcade was extremely picturesque; and the bright colours of the dresses, and beauty of the horses, particularly when the jereed was used, had a fine effect. The Shereef wore an orange-coloured robe; and his flat

turban was becoming, and much more appropriate for a horseman than the cumbrous head-dress used by the Turks. He was remarkably well mounted; his saddle was padded, and had small stirrups like those described in the Appendix, it was covered with purple velvet, and embroidered with gold; his bridle was black, it was also ornamented with gold, and had a crimson rein of silken cord. Besides a number of attendants carrying his gun, pipe, &c., two janissaries bore before him long staves, surmounted with bars of silver, from which balls were suspended by chains of the same metal;—models of an instrument made use of to confine a man's legs when he is bastinadoed.

As soon as I got to the tents, I set out again for the Great Pyramid, where I saw a quantity of rubbish thrown over the casing-stones, in the hope of preserving them from further injury;[7] and at eleven o'clock I went with Mr. Andrews to dine with the Shereef.

His encampment, with a number of horses and camels picketed near it, was highly characteristic; and the glowing costume of his mounted attendants, who armed with lances traversed the plain in different directions, appeared to great advantage in the clear light of an Oriental climate. The tents were pitched near the northern dyke beneath the mountain, upon which the Great Pyramid is placed; and the transitory nature of these patriarchal and simple habitations formed a striking contrast with the vastness

[7] I have had the mortification of hearing, since my return to England, that these precautions were unavailing, and that the stones have been uncovered, and broken to pieces. I was extremely anxious that the British Museum should send for one of these blocks, as the fragments which I have given to that establishment are rough, and imperfect.

and comparative duration of the surrounding objects, the world of moving sand, the vast masses of the ruined causeway, the desert mountains, and the enduring pyramids established upon them—the silent witnesses of successive and countless generations long since passed away, and forgotten—and the most antient and wonderful monuments of human skill, that seem to set at defiance the effects of time, and almost to rival in extent and solidity the productions of nature. The spectacle had also to me an additional interest, from the conviction that I was on the point of leaving for ever this wonderful place.

The Shereef received us in an open tent, in which several people were assembled. In the course of conversation he expressed a desire to see Mr. Andrews's drawings. They were accordingly sent for. He understood them much better than I expected, and even pointed out the portraits of several persons whom he had casually seen.

After some time had elapsed, preparations were made for dinner, by laying down two horses' hides upon the ground before us, and by placing upon them a quantity of Arab bread, which served for plates as well as for food.[8] The guests, having washed their hands, seated themselves, and begun their repast without further ceremony. I observed upon this, and upon other occasions, that the left hand was concealed, and that only the right was in general employed. Wooden spoons were provided for each person. Dishes composed of meat, vegetables, and sweatmeats, in all sorts of basins, cups, and plates, were

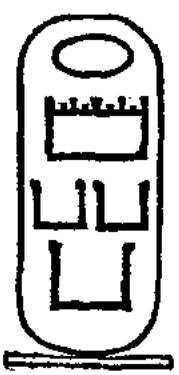
[8] The antiquity of this custom is proved by the interpretation given to the denunciations of the Harpy, in the seventh book of the Æneid.

heaped upon the skins; but the principal feature was a sheep roasted whole, which two men held up by the hinder legs opposite to the Shereef, who slashed at it with a large knife, and managed to cut it into pieces: water was the only liquor, that I observed: when required, it was served out in a silver basin. Each individual rose, when he had finished his meal, washed his hands, and retired from the tent. I took the opportunity of examining the horses, that were picketed near it; and when I came in for coffee, I got all the information I could, respecting them. The Shereef informed me that his best and highest bred horse had been taken to the stables of Abbas Pasha, and that it was by far more valuable than the others. I saw this horse in the evening at Cairo. It was white, and is described in the Appendix as the sire of the colt, which I brought to England.

Soon afterwards, I took my leave, and returned for the last time to my tents, where I had been so long employed, and left Gizeh for Cairo, in company with Mr. Andrews, and Mr. Hill.

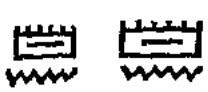
August 5th.—Mr. Mash and Mr. Raven came in the evening from the Pyramids. The people had been occupied in clearing out the interior of the Third Pyramid.

August 6th.—I received a board from the Third Pyramid inscribed with hieroglyphics. It formed the lower part of the mummy-case belonging to Mycerinus, and was left with Mr. Perring, in order that it might be compared with any other pieces that might afterwards be discovered, which



soon took place in the manner I have already described.[9] [1] In the evening I had the pleasure of dining with my friends, with whom I had been so long engaged at the Pyramids, to whose assistance I was so much indebted,

[9] Mr. Perring was of opinion that some of the boards had been charred.

[1] The coffin found in the Third Pyramid, bears the prenomen of the monarch, by whom it was erected, and gives the only name satisfactorily fixed previous to the Sixteenth Dynasty. Although some difference exists as to the name of the monarch in the different Greek authorities, by whom he is mentioned, yet they sufficiently agree in the chief elements of the name, and period; and the cartouche itself affords an easy solution on the modern principle of analysing hieroglyphic texts. Herodotus II. 129, calls the builder of the Third Pyramid Mucherinos, the successor of Chephrên, the son or brother of Cheops, who erected the first or Great Pyramid. These monarchs appear in the list of Eratosthenes, as Moscheris, Sensaôphis, and Saophis. Jablonski corrected the name of Moscheris into Moicheris, as more analogous to its import. *Opuscula* I. 752. Diodorus Siculus gives his name as Mukerinos, or, according to others, Mecherinos, and one reading of Stephanus Rhodius has the variation of Mencherinos. The same monarch appears as fourth King of the Fourth Memphite Dynasty of Africanus, under the title of Menchères. It is evident, from a comparison of these variations, that the integral elements of the name are identical, and that the changes are those of dialect and termination. The cartouche itself is unpublished, but one of the names of the Fifteenth Dynasty bears considerable analogy to it (vide Ros. tom. I. tav. iv. 84), and another given in the same author (Tom. I. tav. ii. 49) phonetically approaches it in its elements, but the ideographic exactitude, with which the prenomens of monarchs are composed, renders it doubtful, if not improbable, that either can possibly refer to the same monarch. The name read phonetically is Re-men-ka, and is composed of the disc of the sun, determinative of the RE or RA, the central symbol used in the texts as the letter M, and especially appropriated to express the idea  Mn, Men, or Moun, "construction, monument," &c., which idea, in the cartouche, is rendered by the

LID OF THE COFFIN OF MYCERINUS.

and to whose skill and industry are chiefly due whatever discoveries may have been made.

August 7th.—The establishment at the Pyramids was

initial symbol, similarly to the contractions common to all monuments. An inspection of the lists of early monarchs seems to justify the theory, that the disc of the sun, universally dominant in prenomens, was occasionally suffixed in the spoken dialect. By this metathesis, Men-kah-re is obtained, comprising all the elements of the names in question; and the translation implies, "the dedicated offering to the sun"—sufficiently near to the paraphrase Ἡλιόδοτος of Eratosthenes.

The whole passage of this author, who derived his information from Egyptian sources, states Θηβαίων ἐβασίλευσεν Μόσχερις, Ἡλιόδοτος ἔτη λα· τοῦ δὲ κόσμου ἦν ἔτος γ το. In this passage is an ellipsis of ος between the first and second words, and of ὅντος ἑρμηνεύεται between Μόσχερις and Ἡλιόδοτος. "The Seventeenth King of Thebes was Moscheris (Moicheris Jabl.), whose name means, 'Given to the Sun:' he reigned thirty-one years. It was the three hundred and seventy-third year of the world."

The cartouche is not in any respect similar to those of his predecessors, Suphis I. and Suphis II., as far as they can be ascertained: it resembles rather those of the Sixteenth Dynasty, but there is no traditional or internal evidence to determine that Mukerinos was either the founder or monarch of another line; and the list of Africanus fixes him to the immediate succession and lineage of Suphis.

Enough has been eliminated of the meaning and application of the hieroglyphics to enable the whole of the text of the coffin to be made out; and although the allusion in itself would appear ambiguous, yet sufficient light is shed upon it by monuments of an approximate and later era to justify the interpretation. It consists of an address to the deceased monarch, as identified with Osiris, whose name every embalmed individual bore. Isis and Nephthys, the sister deities and companions of Osiris, direct a like invocation to the monarch Enantef, whose inner wooden coffin is in the collection of the British Museum. In the hieroglyphics of the coffin of Mukerînos, the unity of the king, under his character of Osiris, is kept up throughout, that deity being the son of Netpe and Seb, the Egyptian Rhea, and Saturn. Osiris is called, on the

now broken up excepting what was necessary for the accommodation of Mr. Andrews and of Mr. Raven, who intended to remain; the former, in order to complete the drawings he has so kindly undertaken; and the latter

coffin of Onkh-apê, a sacred bard (Brit. Mus.), the "revealed son of Netpe." The literal meaning of the two lines appears to be as follows:—

LINE I.—Osirian, King Men-kah-re of eternal life, engendered of the Heaven, child of Netpe . . . . . who extends thy mother?

LINE II.—Netpe over thee, may she watch thy abode of rest in Heaven, revealing thee to the God (chastiser?) of thy impure enemies, King Men-ka-re living for ever.

The expression "child," in Line I., is indicated by the calf and mouth, phonetically S H R, derived from the root shaa, *oriri*, *nasci*, represented by the calf and two human arms, with its determinative of the limb of a victim. (Vide Salvolini, Analyse Grammaticale Raisonnée, Pl. F, 196.) The word "rest" is of common occurrence in inscriptions, and is frequently accompanied by the section of a sarcophagus, indicating the abode of rest, or tomb, over which Socharis particularly presides. The symbol before the hatchet has been almost all destroyed, but the angular corner of the head, and the shape of the tail of the bird, is that of the owl,—a purely phonetic symbol, and not found in a tropical sense. The deity here referred to is Har, or Horus, identified with Ra, the Sun, the support and avenger of his father Osiris, and chastiser of the impure (the mystic enemies of that deity, associates of Typhon, the giants of Greek mythoi). A personification of the goddess Netpe, kneeling on one knee, with wings attached to her hands and arms, is commonly found depicted on the chest of mummy-coffins. On that of Kotb-ti, a female attached to the worship of Amôn (Brit. Mus.), the prayer of the deceased commences, "Oh, Netpe, 'Mother,' extend thy wings over me;" and amongst the prayers of the deceased Onkh-apê, the same invocation occurs: "Extend thy mother, Netpe, over thee, that she may watch over the abode of rest." The allusion in all these instances is to Osiris, or the Osirian type of the dead, equally used in embalming the deceased of either sex. The text of the inscription abounds with the use of phonetic symbols, proving that at this early period the language had been definitely formed.

WOMAN & CHILD OF ALEXANDRIA.

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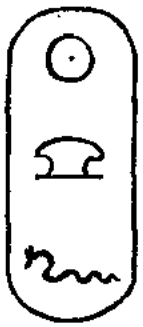
until the Third Pyramid had been effectually cleared out.

I left Cairo with Mr. Hill, accompanied by Mr. Brettell, Mr. Perring, and Mr. Andrews, of whom I took leave near Shoubrah. It was my intention to have gone by the desert to Alexandria from Rosetta; but, being unable to obtain asses at Rosetta owing to a large fair in the neighbourhood, I returned to Atfee, and arrived by water at Alexandria, on the 9th August, 1837.

I heard at that place, from Mr. Raven, that he had cleared the Third Pyramid, and had been at work upon the pavement of Belzoni's Chamber in the Second. I also received from Mr. Perring a drawing of the hieroglyphics inscribed on the mummy-boards, and soon afterwards the boards themselves together with the bones found in the Third Pyramid, which are now in the British Museum. He likewise informed me, that in consequence of a place for a sarcophagus having been found in the floor of the Great Chamber in the Third Pyramid, and of the similarity of its pavement with that of Belzoni's Chamber in the Second, that the latter had been explored in the hope of finding a concealed passage beneath it, but that nothing had been discovered excepting the solid rock. As I considered it an object of great interest, I left directions before I embarked for Malta, that the whole of the pavement and the sarcophagus should be examined, which was accordingly done, but without any successful result. I also desired Mr. Raven to remove the sarcophagus out of the Third Pyramid, and to sink a shaft in the Great Pyramid, which has been already alluded to. Mr. Perring likewise mentioned that the ornaments upon the sarcophagus in the Third Pyramid resembled those in the tomb of Numbers,



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in which is this cartouche. It is also inscribed upon the blocks sent over by the late Mr. Salt, which are now in the British Museum.

As it had been arranged that the antiquities found at the Pyramids were to belong to the Pacha, every thing, that had been discovered since the 13th of February, was delivered to Colonel Campbell, who made application to Boghos Bey for those articles, which I desired to take to England. A list of them is given in the Appendix, and a few articles are added, which I collected at Thebes, in Upper Egypt. A list is likewise given of those left with Colonel Campbell at Alexandria.

On the 27th of August I took leave of my friends at that place, and sailed for Malta.

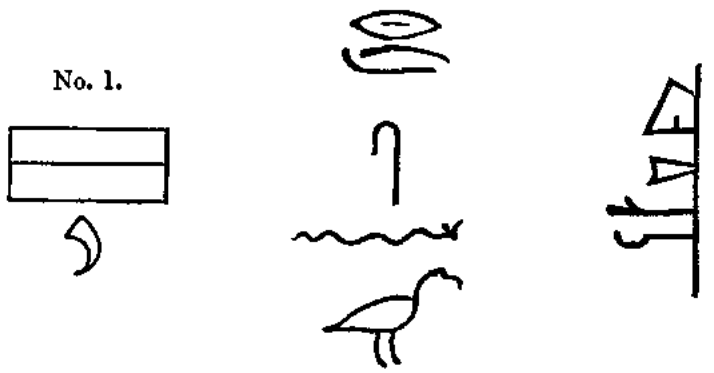
Since my return to this country I have received many interesting letters from Mr. Perring, containing remarks, most of which are embodied in this Journal. He entertained an opinion that a secret passage existed in the Second Pyramid; and it may be observed that the same idea seems always to have prevailed respecting the other pyramids, and also the tombs at Thebes; but, although universally searched for, no such communication has been found in any of the Pyramids at Gizeh, with the exception of the concealed entrance in the Third. There

[1] This name reads ⲣⲉ-ϥϥϥ or ⲣⲉ-ϭϭϥ by a metathesis gives ϥϥⲣⲉ, or ϭϭⲣⲉ, Shefre or Khefre, Shefrenes or Kefrenes, Κηφρην, the ης being a mere Greek terminal; another instance that the solar disc at the commencement of the prenomen was often suffixed in the spoken language. The same monarch is called Suphis II.: his name is not that supposed to be so by M. Rosellini in the cartouche found in the First Pyramid, and in the Tomb of Trades.—Mr. Birch.

is, however, a secret passage below the sarcophagus in the tomb discovered by Signor Belzoni at Thebes.

Mr. Perring sent me several quarry-marks found upon

No. 1.



the stones taken up in Belzoni's Chamber; and said that there were also many others, but that they were quite illegible, and even these do not admit of any interpretation. No. 1. was found on all the four sides of a block.

The whole of the pavement in Belzoni's Chamber was examined, and the sarcophagus removed from its place; it was bedded in a fine cement, upon a large block of granite, and great hopes were at first entertained that a secret entrance was concealed beneath it; but, upon further examination, the granite proved to be merely a slab from twelve to eighteen inches in thickness; and as the lower face of it was rough and irregular, it was bedded, like the sarcophagus, in fine cement, or gypsum; the rock appeared solid in every other part; without the slightest indication of a passage. Mr. Perring is still, however, of opinion that the principal chamber in this pyramid is concealed.

APPENDIX.

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APPENDIX.

ADMEASUREMENTS AND OTHER PARTICULARS RELATING TO THE PYRAMIDS, ETC., AT GIZEH.

The three larger Pyramids seem to have been always pre-eminent for antiquity and for size; but as the mountains near Gizeh have been used as a cemetery from the time of Suphis to a late period, there were probably many more of these monuments besides those which now exist. We are indeed informed that several were destroyed by the Vizier Karakousch for the sake of their materials: at present the remains of nine only are apparent.

Their dimensions are here inserted, and a few other particulars that have been omitted in the course of this Journal. The former refer to the large plans published in numbers; but they may, in some degree, be applied to the sections given in this work, and may be also of use to future travellers in Egypt.

The entrances of all these buildings are from the north; those of the Great Pyramid, of the Second and Ninth, to the eastward of the centre; of the Third, Fifth, Seventh, and Eighth, in the centre; and of the Fourth and Sixth, to the westward.

The sepulchral chambers in the Great Pyramid, in the Second and Fifth, extend east and west, and are entered from the north in a straight line with the inclined passages. Those of the other pyramids are entered by short passages from other apartments on their eastern sides; and in the Third, Fourth, and Sixth, extend north and south; in the Seventh, Eighth, and Ninth, east and west.

The ceilings in these chambers are flat, with the exception of those in the Second and Third; and the walls have been lined with masonry, excepting those in the chambers of the Second and Fifth. The Sixth has not been finished.

The sarcophagi, which have been discovered, have been placed north and south, to the westward of the entrances, and not exactly in the centre of that side of the chamber, near which they have

been deposited. Some doubts may exist, however, as to the original position of those in the Third and Fourth Pyramids.[1]

I have already mentioned that these buildings appear to have been begun from the east, and likewise that all the sepulchral chambers are formed in the rock, and that, notwithstanding their enormous extent, the superstructures are almost entirely solid masses, excepting in the Great Pyramid, where the tomb is in the masonry, although it has been distinctly stated by Herodotus to have been a subterraneous chamber of a peculiar description. I have however sufficiently alluded to this subject, and to our unsuccessful attempts in search of it. The historian is correct in many other instances, and it is certain that great precautions were taken to conceal the position of the sarcophagi. Doubts may therefore be entertained whether the real tombs have been discovered in the two larger pyramids, and the truth might be known respecting the one in question by the removal of the sand, and of the ground beneath it, to a level with the Nile, along the foot of the mountain upon which the pyramid is placed; by which operation any canal for the conveyance of water would inevitably be discovered.

Upon the whole, it appears that, although the same plan was not followed in their interior arrangements, particularly in the three larger pyramids, all of them were intended for the same purpose, and that their construction was carried on upon the same principles; that the chief masses were formed with the materials quarried from the spot, and the parts, which required more exactness, with a finer stone from the Mokattam, or with granite. The Third Pyramid seems to have been built in stages, like the Fourth and Sixth Pyramids, and to have been afterwards completed into one continuous surface.[2]

[1] It is to be remembered that the sarcophagi in Campbell's Tomb were laid east and west.

[2] As part of the casing of the Eighth Pyramid was unfinished, Mr. Perring was enabled to make the following observations: — He observes, that the beds and sides of the blocks were worked to a perfect surface, so that, when put together, the joints were scarcely visible, but that the faces were roughly hewn and projected, so as to preserve the edges from being injured in raising the stones required for the higher parts of the edifice above them, and that, when the whole was completed, the levelling commenced from the apex downwards by one set of workmen, who trimmed off the projecting parts, and by another, who planed them down to a perfect and beautiful surface. In the quarries a regular system was carried to a still greater extent. The rocks were first cleared from rubbish, and levelled; the blocks were then marked out; holes for wedges were cut; the stones were split off by

It is probable that they were all carried up in the same manner, and that these steps were alluded to by Herodotus; as the courses of the stones could not have afforded space for machinery of any extent of power. Mr. Perring, however, has formed a different opinion as to the interior construction of the Second Pyramid.

The hieroglyphics in the chambers of construction in the Great Pyramid, and those in the Fourth, are evidently quarry-marks; and the total absence of these inscriptions forms a striking contrast to the rest of the Egyptian tombs. The hieroglyphics and decorations in the Third Pyramid have been in some degree accounted for.

As it had been supposed that the inclined passages were intended for astronomical purposes, I mentioned the circumstance to Sir John Herschel, who, with the utmost kindness, examined the annexed Table, and entered into various calculations to ascertain the fact. I also informed Sir John of the allusion in the "Quarterly Review" to M. Caviglia's remarks respecting the polar star,[3] and likewise of its having been seen by Captains Irby and Mangles from the inclined passage in the Great Pyramid at the period of its culminating, on the night of 21st March, 1817.[4]

M. Caviglia's remarks, contained in a letter to Mr. Hamilton, dated September 21st, 1818, are as follow:—

"Tous les chemins qu'il y a dans l'interieur de ce monument (la Grande Pyramide), ceux qui sont en pente, forment un angle de 27° avec ceux qui sont en ligne horizontale. Mais ce qui a mérité mon attention est que l'on cesse de voir l'Etoile Polaire on avant qu'on eut bouché le chemin l'on cessoit de descendre pour monter."

M. Caviglia, no doubt, could have seen the star from this passage, but the manner in which he observed it is not clearly described; nor can, after all, any conclusion be drawn from the present length of the passage, either from the entrance to the beginning of the ascending communication, or in any other parts of it, because, owing to the dilapidated state of the exterior of

wedges, and they were afterwards removed; so that these operations appeared to have been performed simultaneously by successive gangs of workmen. It was therefore evident that the advantages of a division of labour were duly appreciated by the antient Egyptians.

[3] I beg leave to assure Sir John Herschel that I fully appreciate the honour he has done me by having considered the question, and by having allowed me to publish the highest possible authority on this interesting subject.

[4] See M. Caviglia's "Discoveries in 1817;" "Translations and Abstracts of various Authors."

the pyramid, the top of the passage has lost twenty-one feet six inches of its original length, and, of course, the bottom proportionably more.

It would appear, that the direction of the passage was determined by the star, which was polar at the time when the pyramid was constructed, and that the exact aspect of the building was regulated by it; but for the reasons already stated, it could not have been used for celestial observation. The coincidence of the relative position of α Draconis with the supposed date of the pyramid, is at all events very remarkable.

A Table shewing the exterior angles of the buildings, the inclinations, and proportions of the inclined passages, and also the dimensions of the sarcophagi, that have been found in the nine existing Pyramids at Gizeh.[5]

	PASSAGES.								SARCOPHAGI.	
Pyramids.	Angle.	Length.	Height.	Breadth.	Height above base.	Angle of Building.	Height.	Width.		
	° ′	Ft. In.	Ft. In.	Ft In.	Ft. In.	° ′	Ft. In.	Ft. In.		
Great	26 41	320 10	3 11	3 5½	49 0	51 50	3 5	3 3		
Second	25 55	304 10	3 11	3 5½	37 8	52 20	3 0	3 6½		
Third	26 2	104 0	3 11½	3 5½	13 0	51 0	2 11	3 1		
Fourth	27 0	27 0	3 6	3 3	without the building.	In steps.	2 7	2 7		
Fifth	27 12	56 9	3 11½	3 5½	2 6	52 15	3 1½	3 3		
Sixth	30 0	47 9	3 11	3 2	without the building.	In steps.	No Sarcophagus.			
Seventh	33 35	55 3	4 0	3 6	At the base	52 10	Not found.			
Eighth	34 5	37 0	4 0	3 6	8 9	52 10	Not found.			
Ninth	23 0	53 0	3 11	3 5	2 6	52 10	Not found.			

The base of the Great Pyramid was above high Nile, in 1837, 138 ft. 9 in.

The base of the Second is above the base of the Great Pyramid 33 ft. 2 in.

The base of the Third is above the base of the Great Pyramid 41 ft. 7 in.

[5] The three Pyramids of Abouseir are situated about seven miles to the south-eastward from Gizeh, on a ridge about eighty feet above the plain. The angle of building of the northern is 51° 35′; that of the descending passage in the northern front 27° 5′. The angle of building of the Middle Pyramid, and that of the entrance, could not be ascertained, on account of its dilapidated state. The angle of building of the Southern Pyramid was not discovered, but that of the entrance was 26°.

The base of the three Pyramids, south of the Third, are lower than the base of the Third, 16 ft. 8 in.

The bases of the three Pyramids east of the Great Pyramid, appear to be on a level with it.

The Second Pyramid is about 400 ft. to the south of the Great Pyramid.

The Third Pyramid is about 750 ft. to the south of the Second.

Sir John Herschel's Observations on the Entrance Passages in the Pyramids of Gizeh.

Four thousand years ago, the present polar star, α Ursæ Minoris, could by no possibility have been seen at any time in the twenty-four hours through the gallery in the Great Pyramid, on account of the precession of the equinoxes; which, at that time, would have displaced every star in the heavens, from its then apparent position on the sphere by no less a quantity than 55° 45′ of longitude, and would have changed all the relations of the constellations to the diurnal sphere.

The supposed date of the pyramid, 2123 years B.C., added to our present date, 1839, form 3962 years (say 4000), and the effect of the precession on the longitudes of the stars in that interval having been to increase them all by the above-named quantity, it will follow that the pole of the heavens at the erection of the pyramid must have stood very near to the star α Draconis, that is 2° 51′ 15′ from it to the westward, as we should now call it; α Draconis was therefore at that time the polar star; and as it is comparatively insignificant, and only of the third magnitude, if so much,[6] it can scarcely be supposed that it could have been seen in the daytime even in the climate of Gizeh, or even from so dark a recess as the inclined entrance of the Great Pyramid. A latitude, however, of 30°, and a polar distance of the star in question of 2° 51′ 15′ would bring it at its lower culmination to an altitude of 27° 9′, and therefore it would have been directly in view of an observer stationed in the descending passage—the opening of which, as seen from a point sixty-three feet within, would, by calculation, subtend an angle of 7° 7′; and even from the bottom near the sepulchral chamber would still appear of at least 2° in breadth. In short, speaking as in ordinary *parlance*, the

[6] In the catalogue of the Astronomical Society, the magnitude of α Draconis is stated as intermediate between the third and fourth. It is certainly inferior to the third; and it is to be observed, that there is not any larger star near it, which could at that epoch have been preferred as a pole star.

passage may be said to have been directly pointed at α Draconis at its inferior culmination, at which moment its altitude above the horizon of Gizeh (lat. 30) would have been 27° 9′—refraction being neglected as too trifling (about 2′) to affect the question. The present polar star α Ursæ Minoris was, at that epoch, 23° more or less in arc from the then pole of the heavens, and, of course, at its lower culmination, it was only 7° above the horizon of Gizeh.

No other astronomical relation can be drawn from the table containing the angles and dimensions of the passages, for although they all point within five degrees of the pole of the heavens, they differ too much and too irregularly to admit of any conclusions.

The exterior angles of the buildings are remarkably uniform, but the angle 52° is not connected with any astronomical fact, and was probably adopted for architectural reasons.

CALCULATIONS.

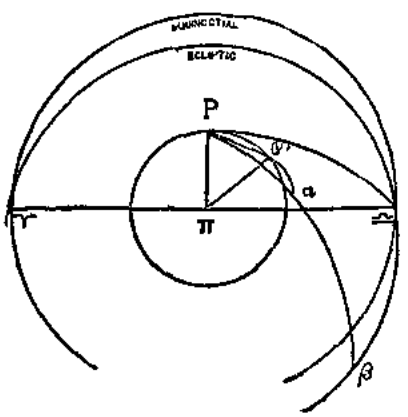
Por. of α Draconis for 1839.

R.A., 1830	$=13^h\ 59^m\ 46^s{\cdot}6$	Dec. 1830	$=65°\ 11'\ 26''$ (See Ast. Soc. Cat.)
Precession + 9 years	$= +\ 14^s{\cdot}6$	Pre. + 9 years	$= -\ 2\ 36$
	$14\ \ 0\ \ 1{\cdot}2$		$65\ \ 8\ \ 50 = \delta$ for 1839.
Reduced to Arc	$210°\ 0'\ 18'' = \alpha$		

Precession in Longitude for + 1 year, epoch 1800	+	50″·22350
Variation for 2000 years backwards, to obtain a mean rate of precession for 4000	−	0·04886
	+	50·17464
Multiply by years	−	4000
Precession in Long. $= -200697''{\cdot}56 = -55°\ 44'\ 57''{\cdot}56$ ...	−	200697·56000
or correctly enough for the purpose		55° 44′ 58′

P the present place of the north pole.
P′ its place 4000 years ago.
α the star α Draconis.
β its projection on the equinoctial.

$\Upsilon \mathrel{\triangleq} \beta = 210°\ 0'\ 18'' = \alpha$
$\Upsilon \mathrel{\triangleq} = 180$
$\mathrel{\triangleq} \beta = 30\ \ 0\ 18 =$ angle $\mathrel{\triangleq}$ P α



In Spherical Triangle P Π P′.
Given angle P Π P′ = 55° 44′ 58″.
P Π = P′ Π = obliquity of ecliptic at a mean epoch, 2000 years back.

Obliquity 1800′ = 23° 27′ 55″ — Required 1st side P P′.
Var. for −2000′ = + 1 31 — 2d angle P′ P Π.
23 29 26 = obliquity to be, and = P Π = P′ Π.

Solution of Triangle Π P P′.

Sin. ½ P Π P′ = Sin. 27° 52′ 29″ . .	9·6698186	Tan. 27° 52′ 29″ ...	9·7233852
Sin. obliquity	9·6005350	Cos. obliquity ...	9·9624319
Sin. ½ P P′ = 10° 44′ 25″	9·2703536	Cotan. 64° 7′ 22″ ...	9 6858171
		Angle P′ P Π = 64° 7′ 22″	

P P′ = 21° 28′ 50″.

≙ P Π	= 90°		In Triangle P′ P α given	P P′ = 21° 28′ 50″		
≙ P α	= 30° 0′ 18″			P α = 24 51 10	= 90 − δ	
α P Π	= 59 59 42			Angle P 1 P α = 4 7 40		
P′ P Π	= 64 7 22		Required α P′.			
P′ P α	= 4 7 40			Cos. 21 28 50		9·9687359
Cos.	4° 7′ 40″	9·9988720		Cos. 2 25 22		9·9996116
Tan.	21 28 50	9·5949652				9·9683475
Tan. a′	21 25 48	9·5938372		Cos. 21 25 48		9·9688865
	24 51 10			Cos. P′ α = 2 51 15		9·9994610
a″	2 25 22					

Note.—These calculations, which take in all the influence of the secular variations of precession, &c., may be considered quite equal, in point of precision, to any direct observation, that an Egyptian astronomer of that date could have made.

TABLE OF DIMENSIONS OF THE GREAT PYRAMID.

The particulars of this pyramid, and the discoveries lately made, have been already described. The hieroglyphics in the Chambers of Construction are inserted at page 279, Vol. I.

	Feet.	Inches.
Former base - - - -	764	0
Present base - - - -	746	0
Present height, perpendicular - - -	450	9
Former height, inclined - - -	611	0
Present height, inclined - - -	568	3
Perpendicular height, by casing-stones -	480	9
Angle of casing-stones 51° 50′.		
Perpendicular height from base to bottom of entrance	49	0
Distance of the centre of this entrance eastward from the centre of the pyramid - - -	24	6

	Feet.	Inches.
Breadth of passage	3	5½
Height perpendicular, to incline	3	11
Angle of entrance-passage 26° 41′.		
Length from beginning of roof to the junction at the bottom of upper passage[7]	63	2
Thence to the forced passage	17	10
From the forced passage to the well	215	2
From the well to the horizontal passage	24	8
Total length of inclined passage	320	10
Horizontal passage.		
Breadth	2	9
Height	3	0
Length	27	0
Subterraneous chamber.		
East and west	46	0
North and south	27	1
Height	11	6
Northern side, distant from the centre of the pyramid northwards	8	0
Eastern side is distant from the centre of the pyramid eastwards	25	11
Depth from the base of the pyramid to the roof	90	8
Passage to the southward.		
Length	52	9
Breadth	2	7
Height	2	5
Upper passage.		
From the end of the granite blocks to the great passage, including the space of 14 feet 9 inches at present occupied by the granite blocks	124	4
Height	3	11
Breadth	3	5½
Angle 26° 18′.		
Great passage.		
Vertical height	28	0
Length to the step leading to the king's chamber	150	10
From the step to the passage leading to the king's chamber	5	2

[7] This passage has lost more than twenty-three feet of its original length, owing to the dilapidated state of the exterior of the building.

The block immediately over the entrance is 12 feet 6 inches wide, and 8 feet 6 inches in height, vertically to the incline. The two lower of the four blocks, placed *en décharge* above it, are 7 feet in width, and the two upper, 6 feet 8 inches.

	Feet.	Inches.
Total length of great passage	156	0
Breadth between ramps	3	5½
Breadth of each ramp	1	8½
Height of ramp	2	0
Length of passage to the king's chamber, including the portcullis	22	1
Height	3	8
Breadth	3	5½
Height of portcullis	12	5
King's chamber.		
North and south	17	1
East and west	34	3
Height	19	1
From base of pyramid to floor	138	9
Northern side is distant from the centre of the pyramid, southwards	16	3
Eastern side is distant, eastwards	26	3

There is supposed to be a difference of a quarter of an inch in one of the sides of the chamber, which is probably an inflection in the stone.

Northern and southern air-channels.		
Inclined height from the base of pyramid	331	0
Distance from eastern side of king's chamber	8	1
Height from floor	3	0
Height	0	6
Breadth	0	8
Length from king's chamber to the outward part of the northern air-channel	233	0
Height	0	9½
Breadth	0	9
Length from king's chamber to the outward part of the southern air-channel	174	3
Height	0	9⅛
Breadth	0	8⅞

The mouth of the southern air-channel in the king's chamber has been forced, but it was probably of the same size as the other.

Sarcophagus in the king's chamber.		
Outside.		
Length	7	6½
Breadth	3	3
Height	3	5

	Feet.	Inches.
Inside.		
Length	6	6
Breadth	2	2½
Depth	2	10½
Passage leading to Davison's chamber.		
Length	24	9
Davison's chamber, discovered by Mr. Davison, 1764.		
East and west	38	4
North and south	17	1
Height varies from 2 feet 6 inches to 3 feet 6 inches.		
Wellington's chamber, discovered by Col. Howard Vyse, March 30, 1837.		
East and west	38	6
North and south	17	0
Height varies from 2 feet 2 inches to 3 feet 8 inches.		
Nelson's chamber, discovered by Col. Howard Vyse, April 25, 1837.		
East and west	38	9
North and south	16	8
Height varies from 2 feet to 4 feet 10 inches.		
Lady Arbuthnot's chamber, discovered by Col. Howard Vyse, May 6, 1837.		
East and west	37	4
North and south	16	4
Height varies from 1 foot 4 inches to 4 feet 5 inches.		
Col. Campbell's chamber, discovered by Col. Howard Vyse, May 27, 1837.		
East and west	37	10
North and south	20	6
Height in the centre varies from 5 feet 10 inches to 8 feet 7 inches.		
Perpendicular height from floor of the king's to roof of Col. Campbell's chamber	69	3
Passage leading to queen's chamber.		
From northern end of great passage to the beginning of the low passage	16	7
The low passage to the step	92	0
From the step to the queen's chamber	17	11
Total length of passage	109	11
Breadth of passage	3	5½
Height before step	3	10
Height beyond step	5	8
Queen's chamber.		
North and south	17	0

	Feet.	Inches.
East and west	18	9
Height to commencement of roof	14	9
Extreme height of roof	20	3
Recess in eastern side.		
Width at the bottom	5	1
Height	15	3
Depth to the forced passage	3	5
From the western side of the chamber to the centre of the Pyramid	7	6
From the southern side of the chamber to the centre of the Pyramid	2	10
From the base of the Pyramid to the floor of the chamber	67	4
Well.		
Depth of perpendicular shaft	26	1
Thence to grotto	32	5
From grotto to the bottom	133	0
Total depth	191	6
Square	2	4
Height of top of the rock from base of Pyramid	22	0

Note.—As the mouth of the well has been forced through the masonry, Mr. Perring supposes that it was not part of the original design, but, if the upper inclined passage was filled with solid masonry, it was the only way by which the workmen could go out after they had closed up the passage from the upper end of it.

The platform on the top of the Pyramid is about thirty-three feet square; above this are four or five stones belonging to the upper layers.

	Acres.	Roods.	Poles.	
Former extent of base	13	1	22	
Present extent of base	12	3	3	
Supposing the rock to average eight feet over the extent of base, and deducting the space occupied by chambers and passages, the original quantity of masonry would be			89,028,000	cubic feet.
The present quantity of masonry would be			82,111,000	do.
Or,			6,848,000	tons.
			6,316,000	do.

The space occupied by chambers and passages being only 56,000 cubic feet, or $\frac{1}{1590}$ of the whole mass.

	Feet.	Inches.
Pavement at the centre of the northern front.		
Width from the original base - -	33	6
Thickness of stones - - -	1	9

Note.—The chasm discovered in the pavement was about 47 feet 6 inches deep.

The courses of stone in the Pyramid vary from 2 feet 2 inches, to 4 feet 10 inches in height.

Mr. Perring's Account of the Shaft sunk in the Subterraneous Chamber, during the Summer of 1838.

	Feet.	Inches.	Feet.	Inches.
Base of the Great Pyramid was above the Nile in 1838			137	3
The rise, that has gradually taken in the bed of the river, is (according to Mr. Wilkinson) about -			10	
			147	3
From the base of the pyramid to the ceiling of the subterraneous apartment -	90	8		
Height of apartment - -	11	6		
Probable height of any undiscovered chamber	10			
			112	2
			35	1

The shaft has been sunk to the depth of 36 feet.

THE SECOND PYRAMID.

As the rock upon which the Pyramids are placed rises considerably to the westward, in preparing a base for the Second, it has been levelled so as to form an area round the building, bounded on the western and northern sides by a low cliff, in which grottoes containing shafts have been excavated; but immediately under the pyramid, the rock has been merely stepped up in horizontal layers, and it appears at the south-western corner eleven feet ten inches, and at the north-western fourteen feet three inches above the base.[a] The stone that has been removed was no doubt used in the building. Sepulchral shafts have been sunk before the northern front; and the rock sounds hollow in several places between the two larger pyramids, and probably

[a] See page 160, Vol. I.

contains many subterraneous chambers and passages: but, as I have before observed, owing to the echoes, occasioned by the immense size and relative positions of these vast buildings, the ear is not entirely to be trusted.

The structure appears to have been surrounded by a pavement, although its extent has not been ascertained, excepting at the centre of the northern front; and a substruction of large stones has been laid at some distance from the north-eastern and south-eastern angles of the building, in order, probably, to secure the base.

The two lower tiers, about seven or eight feet in height, have been facings of granite, as Herodotus has truly described; but, with the exception of the entrance-passage (likewise composed of that material), the masonry is by no means equal to that of the Great Pyramid.

Mr. Perring is of opinion that the interior is divided by massive walls of wrought stone into square compartments, which have been filled up with a sort of gigantic rubble-work, composed of large blocks and of mortar; however that may be, it is so irregularly built, that since the removal of the casing, the desert sand and rain have penetrated in several places to a considerable distance. It was this looseness of construction that impeded M. Belzoni's operations, and occasioned the stones to collapse in the excavation made by the Caliphs.

The stones on the summit of the building have been thrown down; the top of it is, at present, about nine feet square; the casing has also been removed to within 130 to 150 feet of the present summit. It was made of a hard stone from the Mokattam, of the same quality as the blocks at the base of the Great Pyramid, and the part, which now remains, was probably left on account of the difficulty of removing it.[9]

The ruined building near the eastern front, and those similarly placed near the Great and Third Pyramids' have been probably hypæthral temples. The remains of another construction, built with enormous blocks, are likewise to be seen opposite the southern front.

The inscription found by M. Belzoni in this pyramid is given in his book, page 272, from a translation by M. Salame, as follows: "The master, Mohammed Ahmed Lapicide, has opened them;

[9] The casing appears to have been perfect in 1638 (see extracts from Sandy's, Villamont's, and Greaves's travels)—it is said to have been dilapidated by Careri, in 1695.

and the master, Othman, attended this (opening); and the king, Alij Mohammed, at first (from the beginning) to the closing up." The following note is added: "The Arabic to which I gave the meaning of these last words ('to the closing up') is not spelt correctly in the paper I saw,—a fault which I attribute to the transcriber from the stone. It ought to be ولغلاق instead of ولغلاك the latter word not being to be found in the Arabic language. The words between the parentheses in the translation are not in the original. A. S."

Professor Lee, of Queen's College, Cambridge, in a letter to Lord Aberdeen, dated October 24th, 1819, gives the following version of this inscription:—"The master, Mohammed, son of Ahmed, the stone-cutter, first opened them; and upon this occasion were present El Melec Othman, and the master, Othman, and Mohammed Lugleik." The learned professor adds in a note that by "them" it is intended to express the chambers in this pyramid. He also remarks that the event appears to have been recorded by Abd Allatif, and to have related to the project of taking down the pyramids, entertained by Melic Alaziz, Othman Ben Tosouff, and to his unsuccessful attempt upon the Third in 1196–7, when part of that pyramid was removed; and that although no account exists of it that the Second might have been opened at that time. He observes that Makrisi's book, entitled 'An Introduction to a Knowledge of the Royal Dynasties,' and dated a year before the attempt upon the Third Pyramid, contains the following passage, in which the opening of the two larger pyramids appears to be described before any attack had been made upon the Third. "In the month Dhi thijjat, Alaziz Othman conceived a design of destroying the Pyramids, and of carrying the stones to the walls of Damietta; but, upon being informed that the expense of demolishing them would be great, and the gain, as regarded the stones, but small, he turned his attention from the larger pyramids to the smaller one, which was built with granite, and began to destroy it."[1] Professor Lee remarks that the Great Pyramid has remained open since the time of El Mamoon; and that it was therefore probable that he would attack the Second in preference to the Third; and also that the author states that Abd Allah Ebn Ali Othman Ebn Youssef El Makhrumi died in

[1] It does not appear from this passage that any design existed to examine or open the Pyramids, but to take them down for the sake of their materials; and, in that case, the one which could be most easily destroyed would be preferred.

that year. He then quotes from Soyuti the following passages:—"When Ahmed Ebn Tuloon dug down[a] to the doors of the Pyramids they found a vessel of pearl; but he gave up the hope of opening them." "In the time of Ahmed Ebn Tuloon a number of people entered the Great Pyramid, and found in one of the chambers a cup of glass with wonderful colours. When Ahmed Tuloon was informed of this he gave orders that none should enter it." By which it would seem that both El Mamoon, and also Ebn Tuloon visited these buildings.

TABLE OF DIMENSIONS.

	Feet.	Inches.
Former base - - - -	707	9
Present base - - - -	690	9
Former height, perpendicular - - -	454	3
Present height, perpendicular - -	447	6
Former height, inclined - - -	572	6
Present height, inclined - - -	563	6
Angle 52° 20′.		
Square of platform on the top about - -	9	0
From present top to bottom of casing from 130 to 150 ft.		
Upper entrance-passage.		
Note.—This passage has lost much of its original length owing to the dilapidated state of the exterior of the building.		
Height of the bottom above the base of the pyramid	37	8
Centre of passage eastward from the centre of pyramid - - - -	43	10
Angle 25 55.		

[a] The expression "dug down to the doors" would seem to intimate merely the removal of the rubbish; and if the doors were found, and not afterwards opened, it may be inferred that they were closed up with solid masonry of a stronger construction than the rest of the building, and, in that case, the forced entrances in the two larger pyramids may be accounted for; still, however, I am of opinion that all of them have been visited in very early times. It has been supposed that the Great Pyramid was opened by El Mamoon in 829, A.H.; but it has also been believed from the following observations of Dionysius Telmaghre, that it had been previously entered:—"Nous avons regarde par une ouerture, qui étoit faité dans l'un de ces édifices, et qui est profonde de cinquante coudées," &c. Professor White conceives that the passage refers to the opening made by El Mamoon; but that would not affect a former violation of the tomb by the regular entrance.

	Feet.	Inches.
Length from first covering-stone to horizontal passage	104	10
Horizontal passage to portcullis	3	3½
Thickness of portcullis	1	3½
From portcullis to the end of granite	3	5½
Breadth	3	5½
Height	3	11
From end of granite to first descent	14	2
Height of passage	5	10
Breadth	3	5½
Perpendicular descent to the bottom of M. Caviglia's passage	6	9
M. Caviglia's inclined passage.		
Length	18	6
Angle 21° 40′.		
Depth from floor to lower inclined passage	4	4
Length of passage from first descent to second	8	7
— from second descent to lower inclined passage	29	9
From lower inclined passage to Belzoni's Chamber	128	4
Breadth	3	5½
Height	5	10
Belzoni's Chamber, length east and west	46	2
—— breadth north and south	16	2
Height to commencement of roof	19	3
Extreme height	22	5
Distance from east side to the passage	8	7
Centre of pyramid west of chamber	8	0
Centre of pyramid south of chamber	3	10
Extent of floor of rock from the eastern end	16	0
Pavement of limestone	30	0
Sarcophagus.		
Exterior length	8	7
— breadth	3	6½
— height	3	0
Interior length	7	0
— breadth	2	2½
— depth	2	5
Distance from southern side of chamber	4	4
From western side	3	7
Lower inclined passage.		
Length to horizontal passage	96	4
Breadth	3	5½
Height	3	11
Angle 21° 40′.		

	Feet.	Inches.
Lower horizontal passage.		
Length to inclined entrance to lower chamber	23	11
From entrance to lower chamber to portcullis	26	5
Breadth	3	5½
Height	5	11
Thickness of portcullis	1	1
From portcullis to mouth of lower entrance on the exterior of the pyramid	100	0
Breadth	3	5½
Height	3	11
Angle 22° 15′.		
Inclined entrance to lower chamber.		
Length	22	0
Breadth	3	5
Height	3	8
Angle 20° 50′.		
Lower chamber.		
Length east and west	34	1
Breadth north and south	10	2
Height at sides	6	0
Height in centre	8	5
Pavement.		
Width from the base in centre of northern front	36	0

Supposing the rock to average eight feet over the extent of base, the original quantity of masonry would be - - 71,670,000 cubic feet,
Or, - - - - - 5,309,000 tons.
Present quantity of masonry - 65,928,000 cubic feet,
Or, - - - - - 4,883,000 tons.

	Acres.	Roods.	Poles.
Former extent of base	11	1	38
Present extent of base	10	3	30

THE THIRD PYRAMID.

[For a description of the Interior, see p. 72, &c. Vol. II.]

In order to obtain a level for the site of this Pyramid, instead of lowering the rock towards the westward, a substruction, more than ten feet in depth, has been laid in the opposite direction, and particularly towards the north-eastwards, where the rock falls considerably. This foundation is composed of two tiers of immense blocks, and extends to a considerable distance beyond the

north-eastern angle, where it forms a sort of pavement, and has, no doubt, been covered over with finer masonry.

The bulk of the pyramid has been more carefully and compactly built than the two larger, and the stones have been better finished, and are of a greater size. It has been carried up in steps or stages, diminishing towards the top like those in the Fourth and Sixth Pyramids; and the angular spaces have been afterwards filled up, so as to complete the pyramidal form.

The casing has been taken away at various times: some of it was removed a few years ago to assist in the construction of the arsenal at Alexandria; and it was afterwards intended to remove the whole structure, as material for the projected barrage.

The lower part of the casing consisted of polished granite, as the antient historians have described;[1] but the eleven or twelve courses[2] towards the bottom are not worked smooth, but form a sort of rusticated base, inclining like the rest of the pyramid.

It is most probable that both the chasms in the northern front were made by the Mamelucs: but Mr. Perring was informed, that the lower was the work of M. Jemel, and that that gentleman had made several unsuccessful attempts to discover an entrance on the southern and eastern fronts, and also in the pit before the centre of the northern.

The entrance into this pyramid does not appear to have been concealed; indeed it is said that the name of the monarch, for whom it was intended, was inscribed over it.[3]

TABLE OF DIMENSIONS.

	Feet.	Inches.
Base - - - - -	354	6
Present height, perpendicular - -	203	0
—— inclined - - -	261	4
Former height, perpendicular - -	218	
—— inclined - - -	278	2
Angle of casing, 51°.		
Square of platform at top, about - -	16	0
Present height of granite, perpendicular from the base.		
On the western side - - -	36	9
On the northern side - - -	25	10
Upper excavation made by the Mamelucs.		
Height from the base - - -	71	3

[1] As far as C in vertical section.

[2] The antient historians say fifteen.

[3] Diodorus Siculus, lib. i. p. 164.

	Feet.	Inches.
Average breadth - - -	12	0
Depth from the face of pyramid - -	38	0
Lower excavation.		
Height from the base - - -	35	3
Average breadth - - -	11	0
Depth from the face of pyramid - -	31	0
Height from the base to the gallery, began by M. Caviglia at the southern end of excavation made by the Mamelucs - - - -	77	6
Extent of excavation made by M. Caviglia from November 1836 to 13th February, 1837 -	6	0
Extent to which that excavation was carried from thence by Colonel Howard Vyse, to centre of the first shaft	52	0
Depth of the first shaft - - -	29	0
Horizontal passage to centre of second shaft -	11	6
Depth of second shaft to the rock at the bottom of the pyramid - - - -	49	6
Extent of gallery between first and second shafts towards the centre of the pyramid -	18	6
Extent of gallery at the bottom of second shaft towards the centre of the pyramid - - -	22	0
Note. — Both these latter excavations intersect the centre of the pyramid.		
Excavation eastward at the bottom of the second shaft	13	0
Depth of pit sunk at bottom of second shaft into the rock - - - -	4	6
Entrance-passage in centre of northern front.		
Perpendicular height from bottom of passage to base	13	0
Angle of passage 26° 2′.		
Length of granite sides and floor - -	28	2
Length of granite roof - - -	29	8
Total length from entrance to bottom of incline -	104	0
Breadth - - - -	3	5½
Height perpendicular to incline - -	3	11½
From bottom of incline to anteroom - -	4	3
Anteroom, length north and south - -	12	0
Breadth east and west - - -	10	5
Height - - - - -	7	0
From anteroom to end of the three portcullises -	13	5
Passage from portcullis to large apartment.		
Length - - - -	41	3
Breadth - - - -	3	5½
Height - - - -	5	10
Angle of passage 4°.		

	Feet.	Inches.
Large apartment.		
Total length east and west	46	3
Breadth north and south	12	7
Length from east end to pilasters	34	6
Height of apartment from east end to pilasters	15	10
Height at west end	13	4
Former height of apartment westward of the pilasters, where the floor was paved on a level with eastern end	12	0
Present height varies on account of the irregularity of the rock composing the floor from 12 ft. 11 in. to 13 ft. 4 in.		
Place for a sarcophagus.		
Distance from the western side of the apartment	2	10
Distance from the northern side of the apartment	2	0
Length north and south	8	7
Breadth east and west	3	4
Depth in the rock	1	3
Depth from the level of the former pavement, now removed	2	7
Breadth of pilasters	3	0
Projection of pilasters	1	0½
Descending passage into the sepulchral chamber.[4]		
Distance of its entrance from the eastern end of the large apartment	17	0
Length to portcullis	30	0
Total height of passage	4	9
Height of ramp on each side	2	4
Breadth between ramps	2	11½
Breadth of ramps	0	11
Thickness of portcullis removed	0	10
From portcullis to bottom of incline	2	5
Length of horizontal passage to the apartment of the sarcophagus	10	0
Breadth	4	6
Height	6	9
Sepulchral chamber.		
Length north and south	21	8
Breadth east and west	8	7
Height at the sides	8	9
Height at the centre	11	3

[4] The passage was built up to the height of the ramp, for the length of sixteen feet nine inches; in order, it would appear, to prevent the removal of the sarcophagus.

	Feet.	Inches.
Average length of stones meeting in the middle, and composing the roof, is about - -	10	6
Thickness out of which the coving is cut -	3	8
Thickness of granite lining, about - -	2	6
Sarcophagus.		
Outside, length. - - -	8	0
— breadth - - -	3	1
— height - - -	2	11
Inside, length - - -	6	5
— breadth - - -	2	0½
— depth - - -	2	0½
Difference of the level of the room containing the niches below that of the passage leading to the sepulchral chamber, from whence the communication is by seven steps - -	3	3
Length of the seven steps - -	6	0
Width of steps - - -	3	3
Room containing niches.		
Length, north and south - -	17	6
Breadth, east and west - -	6	3
Height - - - -	6	7
Four niches on the eastern side.		
Width - - - -	2	10
Height - - -	4	10
Depth - - - -	8	3
Two niches on the northern side.		
Width - - -	2	2
Height - - -	4	10
Depth - - - -	8	5

Note.—This room is not parallel to that of the sarcophagus, but lays 25′ east of north.

Upper passage from the large apartment.[5]

[5] This passage leads from the large apartment through the rock to the masonry, and at the upper end of it are several forced passages, that appear to have been made many years before. One of them extends 5 feet to the west, from the end of the passage, and ascends about 11 feet, and then slopes upwards to the south-east to the distance of 12 feet 6 inches, then continues horizontally to the southward, 35 feet 6 inches; afterwards inclines westward 6 feet 10 inches, and returns to the south for 5 feet, and terminates in the masonry. Another excavation, 4 feet eastward of the passage, ascends perpendicularly for 7 feet, runs southward horizontally 8 feet, and then to the eastward 9 feet, where it terminates in the masonry. The highest point of rock at the upper end of this passage, is 9 feet 2 inches above the external base of the pyramid.

	Feet.	Inches.
Distance from the ceiling to the top of the entrance	1	7
Horizontal part		
Length	16	9
Height	4	7
Breadth	3	5½
Inclined part.		
Length	63	7
Height	3	11½
Breadth	3	5½
Angle 27° 34″.		
Perpendicular depth from the base of the pyramid to the floor of the large apartment	34	8
Perpendicular depth from the base to the floor of apartment of the sarcophagus	51	0
Distance from the centre of the pyramid southwards, to the northern side of the large apartment	3	3
Distance from the centre of the pyramid westward, from the eastern end of the large apartment	10	4
Square of platform on the summit	16	0
Original quantity of masonry	9,132,000 cubic feet,	
Or,	702,460 tons	
Present quantity of masonry	8,220,900 cubic feet.	
Or,	632,370 tons.	

	Acres.	Roods.	Poles.
Extent of base	2	3	21

TABLE OF DIMENSIONS OF THE FOURTH PYRAMID,

THE CENTRAL SOUTH OF THE THIRD.

[For the description of this Pyramid, see page 45, &c. Vol. II.]

Square of base	102	6
Height of first step	17	3
—— second step	19	6
—— third step	19	6
—— fourth step	13	3
Total height	69	6
Square of the summit, about	23	4
Horizontal distance of entrance from the northern front	13	0
Distance of the entrance westward from centre of pyramid	12	0

	Feet.	Inches.
Inclined entrance-passage.		
Length	27	0
Height	3	6
Width	3	3
Angle 27°.		
Anteroom.		
Length, east and west	13	9
Breadth, north and south	10	3
Height	8	7
Inclined passage leading to sepulchral chamber.		
Length	11	8
Width	3	0
Height	3	6
Angle, 21° 14′.		
Sepulchral chamber.		
Length, north and south	19	2
Breadth, east and west	8	9
Height	10	4
Depth of the roof below base	11	4
Sarcophagus.		
Exterior, length	6	8
—— breadth	2	7
—— height	2	7
Interior, length	5	10
—— breadth	1	6
—— depth	1	11½
Thickness of the lid	0	10½
Extent of base 1156 square yards.		

TABLE OF DIMENSIONS OF THE FIFTH PYRAMID,

THE EASTERN SOUTH OF THE THIRD.

[For descriptions, see page 38, &c. Vol. II.]

Former square of base	145	9
Present square of base	138	0
Former perpendicular height	93	3
Present perpendicular height	83	4
Central line down the present front	102	0
Angle 52° 15′.		
Square of the summit, about	14	0
Entrance above the base	2	6

	Feet.	Inches.
Inclined passage.		
Length	56	9
Breadth	3	5½
Height	3	11½
Angle 27° 12′.		
Horizontal passage.		
Length to portcullis	4	0
Thickness of portcullis	0	10½
From portcullis to apartment	8	9
Breadth	3	5½
Height	4	1
Apartment.		
Length, east and west, north side	25	6
south side	25	2
Width	10	5
Height	8	9
Depth of the roof below base	14	9
Sarcophagus.		
Exterior, length	8	0½
—— breadth	3	3
—— depth	3	1½
Interior, length	6	2
—— breadth	1	9½
—— depth	2	1

Former extent of base, 2361 square yards.
Present extent of base, 2116 —

TABLE OF DIMENSIONS OF THE SIXTH PYRAMID,[6]

THE WESTERN SOUTH OF THE THIRD.

[For description, see page 66, Vol. II.]

Square of base	102	6
Height of first step	17	3
—— second step	19	6
—— third step	19	6
—— fourth step	13	3

[6] Mr. Perring remarks, that this Pyramid is in ruins, and that it is the one into which the French, during their occupation of Egypt, attempted to enter by means of artillery; a mode of inquiry, he observes, worthy of military *savans*: this circumstance is alluded to by Colonel Coutelle.—See "Abstracts" from various authors.

	Feet.	Inches.
Total height	69	6
Square of the summit, about	23	4
Entrance passage, westward of the centre	6	0
Length	47	9
Breadth	3	2
Height	3	11
Angle 30°.		
Anteroom, length, north and south	13	8
Breadth, east and west	8	7
Height	7	6
Passage to inner apartment.		
Length	7	0
Height	4	1
Width	3	5
Sepulchral chamber.		
Length, north and south	26	0
Breadth, east and west	11	4
Height varies from 7 feet to 9 feet 6 inches.		
Roof of apartment below base	24	0

TABLE OF DIMENSIONS OF THE SEVENTH PYRAMID,

THE NORTHERN EAST OF THE GREAT PYRAMID.

[For description, see page 68, Vol. II.]

Original base, supposed to be a square of[7]	172	6
—— perpendicular height, supposed to be	111	0
—— inclined height, supposed to be	140	0
Angle of casing, supposed to be 52° 10′.		
Former extent of base, supposed to be 3295 square yards.		
Present base above ground, about	125	0
—— height above ground	45	0
Entrance-passage[8] in centre of northern front, length	55	3
Height	4	0

[7] These supposed dimensions are matter of opinion, as the exterior of the structure is entirely ruins.

[8] The entrance-passage is composed of masonry to the distance of 16 feet; and the northern side of the inclined passage leading to the sepulchral chamber is also revetted in the same manner.

	Feet.	Inches.
Width - - - -	3	6
Angle 33° 35′.		
Horizontal passage, length - - -	9	0
Anteroom, length, north and south - -	13	10
Width, east and west - - -	5	10
Height at southern end - -	9	9
—— northern end - - -	4	0
Length of inclined floor - - -	10	9
Inclined passage leading to sepulchral chamber.		
Length - - - -	13	4
Height - - - -	4	1
Width - - - -	3	1
Angle 34°.		
Sepulchral chamber—length, east and west -	11	8
Width, north and south - - -	9	9
Lining from 2 ft. 2½ in. to 2 ft. 8 in. in thickness.		

TABLE OF DIMENSIONS OF THE EIGHTH PYRAMID,

THE CENTRAL EAST OF THE GREAT PYRAMID.

[For description, see page 1, Vol. II.]

Original base, square of - - -	172	6
—— perpendicular height - -	111	0
—— inclined height - - -	140	0
Angle 52° 10′.		
Original extent of base, 3295 square yards.		
Present base above ground square of about -	125	6
—— perpendicular height - - -	55	0
Entrance-passage above the centre of the base -	8	9
Length - - - -	37	0
Height - - - -	4	0
Width - - - -	3	6
Angle 34° 5′.		
Horizontal passage, length - -	9	6
Anteroom, length, east and west - -	10	0
Breadth, north and south, west end -	9	2
—— east end - - -	6	0
Height - - - -	8	11

	Feet.	Inches.
Passage leading to sepulchral chamber.		
Length - - -	12	0
Height - - - -	3	10
Width - - - -	3	6
Angle, 26° 35′.		
Sepulchral Chamber — Length, east and west -	12	9
Breadth, north and south	10	3
Lining from 1 ft. 10 in. to 3 ft. 2 in.		

TABLE OF DIMENSIONS OF THE NINTH PYRAMID.

THE SOUTHERN EAST OF THE GREAT PYRAMID.

	Feet.	Inches.
Original base, square of - - -	160	0
perpendicular height - -	101	9
inclined height - - -	130	6
Angle, 52° 10′.		
Original extent of base, 2844 square yards.		
Present base above ground, square of - -	120	0
Perpendicular height - - -	80	0
Inclined height - - - -	97	0
Entrance passage — height above base, about -	2	6
Centre eastward of the centre of pyramid, about -	5	0
Length - - -	53	0
Height - - - -	3	11
Width - - - -	3	5
Angle, 28°.		
Anteroom — Length, north and south - -	11	1
Breadth, east and west -	8	8
Height - - -	7	3
Passage to sepulchral chamber.		
Length - - - -	8	2
Height - - - -	3	10
Width - - - -	3	3
Angle, 28° 50′.		
Sepulchral chamber.		
Length, east and west - - -	12	3
Breadth, north and south - -	9	6
Height - -	8	6

TABLE OF DIMENSIONS OF INCLINED PASSAGES,[9]

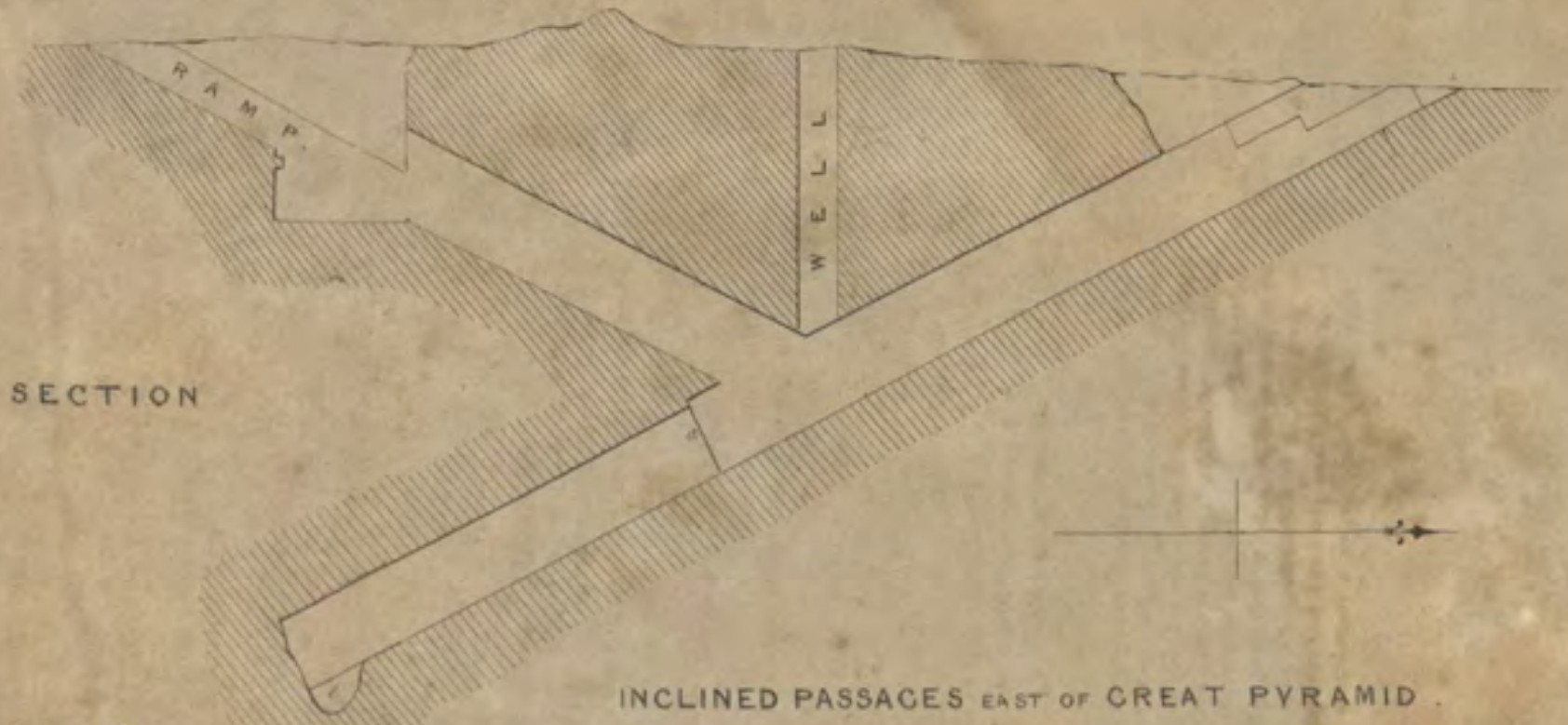
EXCAVATED IN THE ROCK TO THE EASTWARD OF THE GREAT PYRAMID.

[For description, see page 189, Vol. I.]

	Feet.	Inches.
Inclined passage from the north.		
Length	65	9
Height	3	11
Width	3	5
Angle, 27° 20′.		
Length from entrance to ascending passage	40	6
Angle of ascending passage 27°.		
Square of perpendicular shaft	2	4
From intersection of passages to horizontal part at the commencement of ramps	38	4
Height	3	11
Width (beyond this it is open)	3	5
Horizontal part	7	8
Continuation of incline to the surface of the ground.		
Length	11	9
Ramp on each side.		
Breadth	1	7
Height	2	0
Width between	3	5½

Note.—A considerable part of the lower end of the passage from the north, is only roughly chiselled in the rock.

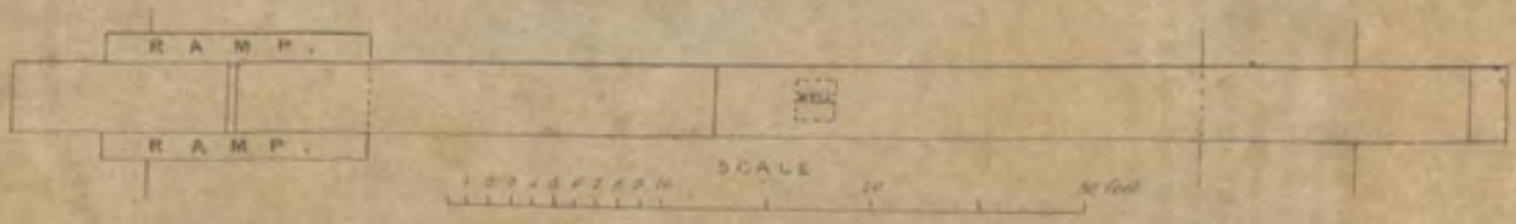
[9] Mr. Perring remarks, that these passages are nearly in a line with those of the Seventh, Eighth, and Ninth Pyramids, and that as the flaws in the sides of them have been made good, and as the rock has been levelled for the foundation of a building, it was probably intended to erect a pyramid over them; but that it is to be doubted whether the intentions have been realised, as the bedding for the stones is not to be seen, and, likewise, as only three pyramids to the eastward of the Great one are mentioned by Herodotus. He adds, however, that one of the passages has been trimmed and plastered; and remarks, that the ramps in the ascending passage have, in some degree, a resemblance to those in the Great and Third Pyramids.



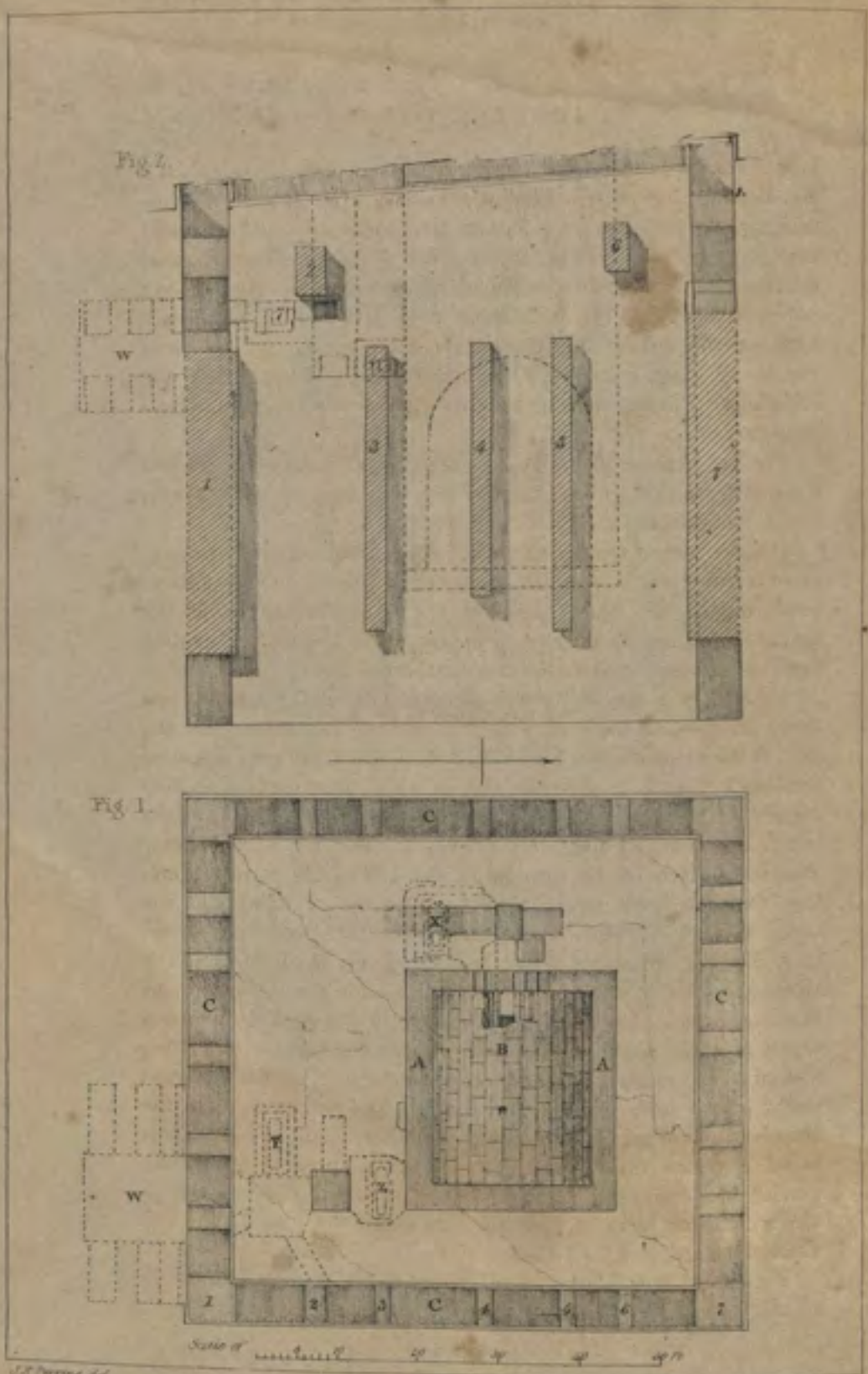
SECTION

PLAN

INCLINED PASSAGES EAST OF GREAT PYRAMID.



Published by J. Fraser, Regent St. 1840.



CAMPBELL'S TOMB.

FIG. I. GENERAL PLAN — FIG. II. SECTION OF E. SIDE OF TRENCH.

CAMPBELL'S TOMB.

This Tomb has been already described, (see page 216, Vol. I.) Mr. Perring, however, observes, that the arch which it contains, proves that the principles of that mode of building must have been well understood at the time of its construction, and therefore that many arches had, no doubt, been previously formed; and he remarks, that Mr. Wilkinson (page 116, Vol. II. of his last work on the antient Egyptians) is of the same opinion, and that he imagines from the drawings at Beni Hassan, that the invention was known at the time of the first Osirtesen, the contemporary of Joseph.

Fig. I. General plan. A A, is the central excavation, 30 feet 6 inches from east to west, 26 feet 3 inches from north to south, and 53 feet 6 inches in depth.

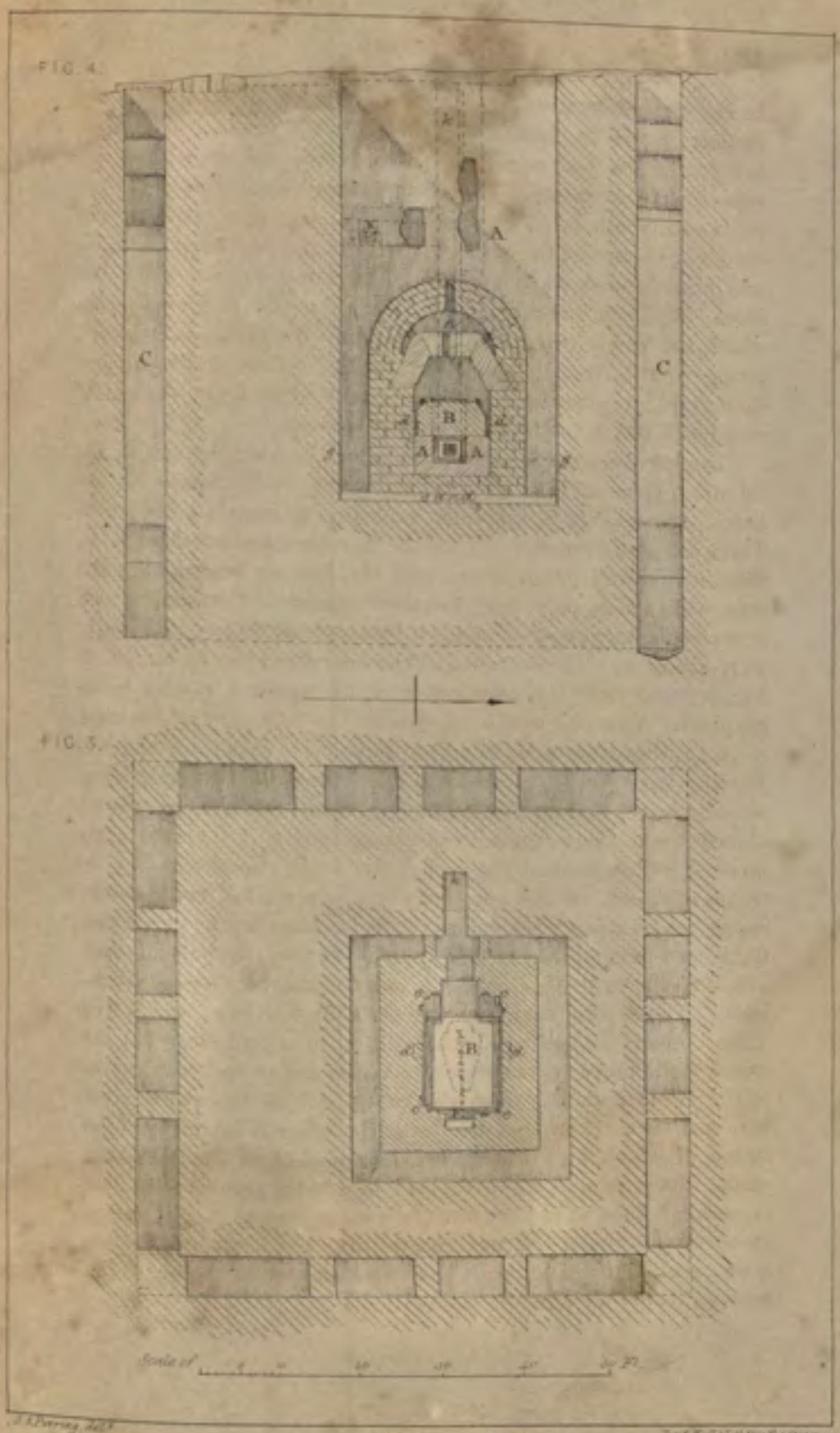
B is the arched tomb. C C C C, shew a surrounding trench, about 5 feet 4 inches in width, and about 57 feet 3 inches square, measuring on the inner side. It is not equidistant from the central excavation, on account, probably, of the sepulchral grottoe proceeding from the shafts on the southern side.

Fig. II. is a section of the eastern side of the trench, and shews the parts of the rock which have been left to support the sides of the excavation—(Nos. 1, 2, 3, 4, 5, 6, 7; see also the same numbers in Fig. I. Plan)—the rest of which is supported in like manner. The upper surface of the ground is not level, but the trench is about 73 feet deep, being 15 feet 6¾ inches lower than the surface of the inundation in 1838. It seems, therefore, to have been made for the purpose of insulating the tomb, but not to have been carried to the proposed depth, as it appears unfinished; and we are given to understand by Herodotus, that it was not an unusual custom for the Egyptians to excavate until they met with a fissure in the rock by which a supply of water might be obtained, without the trouble of cutting a canal. The excavations or grottoes, *w*, *x*, *y*, *z*, in the different shafts, appear to have been first made. The sarcophagus in the British Museum was taken from *y*; another, made of basalt, was found near, or rather under it; a third, apparently of white granite, was discovered at *z*; and at *x*, a fourth, of basalt, decorated with a few rows of hieroglyphics down the front: they had all been opened, and the bodies removed.

Figures 3, 4, 5, shew the form and construction of the tomb

in the central excavation, placed upon a bed of sand, about two feet six inches in thickness, on which slabs about five feet long, composing the bed course, were laid flat, and upon them the superstructure of small stones has been raised. In the centre an immense block, A, has been placed, having a recess scooped out of it to receive the sarcophagus, and another large block, B, was placed upon it, as a cover. The lower surface of this last block has been roughly inscribed with a row of hieroglyphics, which are partly given at Fig. 6; but the inscription is imperfect, owing to the stone having been broken. There are also a few hieroglyphics (given at No. 8,) at the end of the lower block at E, in a place which had the appearance of a pit.

The sarcophagus is of black basalt; the hieroglyphics on the lid are given at Fig. 7; at the corners of the apartment are holes, *c c c c*, Fig. 3, intended, probably, to contain small vases. There are also recesses, *d d*, on the northern and southern sides, filled with small green idols; and Mr. Perring remarks that the tape with which they were swathed consisted of muslin, of such an extreme fineness, that modern looms would find some difficulty in rivalling it. The entrance of the apartment was by the pit, *k*, Fig. 5; and near the opening of it, at *m*, was a row of hieroglyphics. The roof of the apartment has been already described to be flat down the middle, and to slope off to each side; and Mr. Perring says that it is formed of four stones, the two outer being set edgeways, and rather inclined inwards, and the two centre placed upon them; and immediately above it the arch commenced, which formed the roof of the upper chamber. The intrados of which are the segment of a circle, six feet two inches in radius, and having a span of eleven feet. It is three feet ten inches thick, and is composed of four separate courses, overlapping each other, as shewn in Figs. 4 and 5, so as to maintain a good break-joint. The stones composing it are four feet long, and fifteen inches broad; it has not been built upon a centering, but the stones of the inner course were previously cut to the exact curves of the joints radiating from the centre. With this course great care has been taken, but less with the other three, many of the stones of which are rectangular, and packed at the back with chips. Each course, however, was separately grouted with fluid mortar. A tube of earthenware in a stone stopper, *h*, had formed an opening between the two apartments; and immediately above it was another opening, with a similar stopper at the top of the arch, probably intended for ventilation.



CAMPBELL'S TOMB.

FIG. 3. SECTION LOOKING WEST_ FIG. 4. PLAN.

At *jj*, Fig. 4, were two rows of amphoræ. The whole of the masonry of the building is very beautifully worked and put together, and where the walls, particularly in the interior, are trimmed off, the joints are scarcely perceptible: the under sides of the arched stones of the inner course have had the aris taken off, and are tooled round so as to resemble rusticated work. A row of hieroglyphics is inserted in a shallow groove lined with plaster, that runs round the sides of the central excavation at *g g*, Fig. 4: they are given in Figs. 9, 10, 11, 12. Mr. Perring states that, at the north-western corner of the central excavation, a stone has been built in on the upper surface, which shews that it had formerly been covered with an arch; and that the trench exhibits the same appearance. Mr. Perring conjectured that the whole monument may have been covered by a pyramid.

TABLE OF DIMENSIONS.

	Feet.	Inches.
Central excavation, east and west	30	6
—— north and south	26	3
—— depth about	53	6
Tomb—length	14	9
— breadth	10	5
— height to springing of arch	19	4
— from springing to top of arch	7	8
Span of arch	11	0
Stratum of sand beneath the building from 2 feet to 3 feet.		
Mean width of external excavation	5	4
Square of inner side of exterior excavation	57	3
Depth of exterior excavation about	73	0

NOTE I.

Inscriptions on the Sides of Campbell's Tomb.

THE inscription on the sides of Campbell's Tomb refers to the party for whom this construction was probably undertaken. He appears to have been an *attaché* to the scribes of the southern quarter—probably one of the great divisions of Memphis—and to have been named Phaikop or Phaishop: and in the line on the south side, called PHAISHOP-ENTRAT, in order to express more clearly the phonetic force: the inscription here commences with an invocation of the goddess Isis—"I am thy sister, Isis; rejoice

then to thy beloved, &c.:" ending with the titles of the deceased —"great ..... in the south and north, chief scribe of the south. RA-HAAHETHEMOUBSH." The intermediate parts in this inscription are not distinct, being partially erased; and the titles at the other end are such as have not yet been entirely deciphered: the latter name is compounded of that of the monarch with an adjunct, implying in his glory (?) which has naturally been supposed to indicate the period when the tomb was excavated. This name appears to have been a surname of PHAISHOP, from the tenor of the inscription upon the sarcophagus itself, which contains the end of the name of Ra-haa-hethemoubsh (?) whose 'great name is Phaishop,' whose 'good name is NOFRETHMOUEMSHNIN.'[1] The prenomen, which occurs in the composition of the name of the individual, belongs to two monarchs — Psammetichus II., or Apries. In Rosellini, tom. ii. tav. 1, a slight difference exists in the manner of making the central symbol, which has been conjectured, not proved, to have the phonetic value of —(see Salvolini, 'Analyse Grammaticale,' Pl. 6. 205, and Rosellini, Monumenti Storici.) On a monument, B. M., Egyptian Saloon, where that name occurs, no such distinction exists; and at all events, whether or not the name is the prenomen of Psametik II., which is far the most probable, because in almost all these compositions of royal names to make private ones, prenomens seem to have been taken by preference, although occasionally names appear to have been used; the tomb must have been constructed anterior to 604 A.C., supposing it to have been made after Psametik II.; because it was likely to have been assumed by an individual born during the reign of this monarch, and deceased during that of his successor; but if the supposition be adopted from Apries, it must be posterior to 570 A.C. The other inscriptions in this tomb have all reference to the same functionary, and consist of different prayers and formulas—an analysis of the whole of which cannot at the present be given. Another, marked Fig. 10, north side, contains an invocation to NETPE—"Osirian, *attaché* to the scribes of the south—RAHAAHETHEMOUBSH—extend thy mother Netpe over thee; may she attend to thy abode of rest in heaven, giving thee to appear to the god in the ..... with thy name to the god; may she provide thee with all other things. ..... Netpe, the daughter of the Sun, above the *attaché* of the

[1] 'NOFRETHMOU in the lily,' referring to the chapter in the Ritual—(see "Rit. Dése. de l'Egypte")—where the head of that deity appears placed in a lily. He also ordinarily wears a lily above his head for his distinctive emblem.

LINE ON THE SOUTH SIDE.

LINE ON THE NORTH SIDE.

LINE ON THE WEST SIDE.

LINE ON THE EAST SIDE.

CAMPBELL'S TOMB.

HIEROGLYPHICAL INSCRIPTIONS ON THE SIDES.

scribes of the south, Phaishop," &c. The latter part being completely confused and illegible, and of which even a general meaning can scarcely be at present offered—a circumstance not uncommon with regard to texts running upon unusual formulas, especially those with which the sides of the coffins of the Psammetic era are adorned, and which consist of short prayers, &c., having reference to expressions, &c., in the ritual. The personage to whom the inscriptions at the sides of the tomb refer, is not the same as the one whose embalmed body was deposited in the sarcophagus, from that locality, presented to the Museum by Colonel Howard Vyse, nor of that of the basalt fragment from the same locality. These, especially the granite one, having been apparently placed there at a later epoch.

The other inscriptions with which the sides of this tomb are covered, refer to similar prayers uttered by the priests, or having relation to different deities, but are chiefly addresses. It would be difficult at present to offer more than a conjectural explanation of the meaning of these various formulæ, which present difficult forms not having yet been sufficiently collated to enable a definite interpretation to be given.—Mr. Birch.

Note II.

Sarcophagus in Campbell's Tomb.

The lid of the Sarcophagus (Fig. 7) exhibits nothing beyond the usual form of similar monuments—the face of the deceased in the klaft, the beard, the oskh or collar, and the mummied form. On it is a short inscription, containing an invocation to the deceased *attaché* of the basilicogrammateis of the viands—Phaishop[2] (?) surnamed Ra-haaheth-(Hophra)-emoubsh, &c., being the same functionary for whom the tomb was excavated, as appears from the tenor of the hieroglyphics upon the sides. This was, in fact, the chief sarcophagus of the tomb; and the other similar functionaries, though not relatives, were subsequently deposited in the same locality. The hieroglyphics on the stone over the Sarcophagus (Fig. 6) refer to the same as those on the stone at the end of the Sarcophagus, and contain a short religious sentence, reading inversely from right to left (Fig. 8).

[2] This I imagine to be the confused part at the base of the first l. on the right: compare the other inscriptions, from 1 to 7.

Note III.

Sarcophagus, now in the British Museum, which was taken from the Shaft at the south-eastern corner of Campbell's Tomb.

The sarcophagus, or coffin of red granite, found in a tomb in the neighbourhood of Gizeh, discovered by Colonel Howard Vyse, in 1837, and named by him Campbell's Tomb, in honour of the present British consul in Egypt, was presented to the British Museum by the discoverer, and arrived there on the 11th of April, 1839. The tomb, as will be perceived from the hieroglyphics copied from its sides, was constructed, during the rule of the XXVI. or Saite dynasty, for functionaries of high rank at Memphis; and the two sarcophagi from that locality bearing internal evidence of having been constructed during the same period, receive additional illustration from two contemporaneous monuments, viz., the large sarcophagus (note A) of Hapimen, Egyptian Saloon, No. 23, removed from Cairo by the French, called there the "Lover's Fountain," by the Turks, and the fragment, Egyptian Saloon, No. 66 (note B), of which a counterpart exists in the Ashmolean Museum at Oxford. The scenes on these three monuments mutually illustrate, and are necessary evidences to, one another.

At the period of this dynasty, Memphis appears to have resumed some of the antient splendour which it enjoyed under the constructors of the eternal pyramids; and an affectation for the archaic names, titles, customs, and, to a certain extent, an imitation of the works of art of that remote epoch, seems to have arisen under the rule of the Psammetici, and to have been continued till the Ptolemaic era. The reasons of this fashion are necessarily hidden in much obscurity, as to whether caprice dictated the change—a fancied descent from the older monarchs—or the desire to throw over a throne, acquired by unusual means, an appearance of that legitimate antiquity which it could not boast, were the latent and moving springs of this peculiar *archaism* during their reign. But the arts were in decay, a florid and a frittered style was usurping the bold simplicity of the more antient monuments; and the attempt at imitation only produced a species of art which pointed out that the elements of its annihilation were making fast inroads upon its powers: for the meretricious and ephemeral productions were wanting in that grace

PLAN

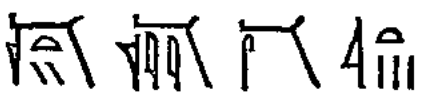
and dignity which characterised the nobler productions of the epochs of Rameses the Great, Thothmes the Third, or the Osirtasens; neither did they possess the rude grandeur of the era of the family of Cheops. It is to the period of the rule of the Psammetici, and to the floating interval between them and the commencement of the Lagidæ, that the fabrication of this colossal monolith of Syenite is to be attributed. It is of inferior execution —the hieroglyphics and figures being cut in a slighter intaglio than ordinary, and possessing none of the sharp squareness of execution which characterises the monuments of the Ptolemies. As a work of art, it is worse than the coffin of Hapimen, while the titles of the deceased, who is mentioned as belonging to the "temples of the quarter of the white wall," or Acropolis of the southern Metropolis, indicate an approximation to the era of the Ptolemies, under whom the Memphian functionaries seem especially to have flourished. As all the sarcophagi appear fabricated upon one general model, varied slightly according to the taste of the relatives of the deceased or dictation of the priests, who had the especial charge of the embalming, it will be as well to notice the type, more or less followed out, upon which they were constructed. The body of the deceased, embalmed and swathed after the model of Osiris, was generally taken as the form for the sarcophagus, which was thus made to resemble a mummy of broad proportions; and on the sides, or at the head and foot, were always sculptured, either in compartments or else diffused over the whole, the various deities under whose care the body of the Osirian was supposed especially to be. Throughout the text, an analogy, not always quite complete, was kept up between Osiris and the deceased; and the various rituals and prayers which the deities or the defunct uttered had universally reference to a similar object. Thus Netpe, the wife of Seb, the Egyptian Saturn, was often depicted upon the lower part of the chest of the body, addressing the dead as her son, over whom she spread her wings, Isis and Nephthys were represented kneeling and deploring, as at the bier of Osiris, while the inferior genii of the Amenti appeared around the sides of their embalmed father, and a host of principal deities uttered consolatory exhortations to the deceased, or announced, as in the sarcophagus of Hapimen, the particular members of the body which were under their especial charge.[3]

[3] See the interior, where the deities are represented round the whole of the body.

The present sarcophagus is made upon a similar type, rudely representing a mummy of truncated proportions, squared at the feet and rounded at the upper end, having the lid or cover also rounded above, and with the mask or portrait of the deceased carved at the lid about the head; below the head, which is enveloped in the peculiar long attire called the klaft, is an oskh, or kind of semicircular collar or tippet, formed of parallel concentric rows of lotus-flowers and other ornaments, not terminating, as they usually do, in two hawks' heads. Beneath the oskh is the goddess Netpe, profile to the right, kneeling upon both legs, having on her head a disc, extending both arms, to which are appended wings; in each hand she holds an ostrich feather. At the sides of Netpe are Isis and Nephthys, kneeling to the right and left upon symbols of noub or 'gold,' facing Netpe, and holding both hands over signets, which, in other scenes, are replaced by solar discs. Beneath these deities, and in two compartments to the left and right, are the two first genii of the Amenti—Amset or Amseth, and Hape or Ape—a form of the deity Apis; their names are written immediately before them.

The four perpendicular lines of hieroglyphics immediately before each of these deities, which are not continued down the whole length of the upper part of the lid, contain "The address of AMSETH. I am thy son — Osirian, priest of the Divine abodes (temples) of the district of the white wall; superintendent of abode of the[4] inundation (?) Saotou[5] justified. I have come to manifest myself beside thee." A perfectly similar address of the genius Hapê occurs in four corresponding lines. In two similar compartments beneath are two other genii of the Amenti—EAOUMAUTF,[6] jackal-headed, and KEBHSNAUF, hawk-headed. Each of these deities utters a similar address, with the addition of the genealogy of the deceased, "Born of the lady of the house TAISAENONKH."

[4] Very uncertain; represented by a lion—possibly RA, the abode of RA.

[5] SAOTOU (?) This name is peculiar to the Ptolemaic era. It occurs in the forms  &c. The three bars in the present instance, indicate a plural desinence, while its equivalent is a well-known phonetic symbol for a vowel. Part of his titles are, at present, undecipherable.

[6] The genius has been hitherto called SIOUMAUTF—interpreted by Rosellini "Star of his mother;" but variants of his name, as clearly indicate that his appellation is Enoumautf—"He who adores his mother." Champollion, "Gr. G.," p. 282, calls him SOUTEFMAU—evidently erroneously.

The three central lines interposed between these divisions, the text of which is continued to the foot of the lid, contain three prayers —the central line one, to Netpe: "Osirian! &c., extend the mother Netpe over thee ..... as she is attached to the firmament: do not ..... for ever and ever." The line to the left contains another invocation to the same deity: "Go, thou Osirian, &c., to Netpe; may she unite thee to the chief of her race; may she anoint thee with water like the east eye (?) in the solar abode in ..... the darkness with thy ....."

To the right and left, in two vertical lines of hieroglyphics, continued down the whole length, are two similar prayers. The one to the right contains a trilogistic prayer: "The invocation Osirian, &c.; life for thee, thou who residest among the living, illuminate thou Osiris pethempamentes, Osirian, &c., who residest among the light....." The prayer to the left: "....The invocation....Osirian, &c.; appear thou, elevate thou, sit thou .....in the abode of Haroeri, the guardian of Poni; hail, Osirian, &c.; receive thou life, do not place thy feet in the heaven, do not....thou in the world." The two lines at the side of the cover also contain two prayers of similar nature to those at the top of the sides, "Osirian, &c., may the four deities, children of Horus, making road to his father Osiris; may they shew, or appear, before thee; may they lead to thee, &c., Osirian, &c., chastising thy enemies in the sepulchre, leading thee," &c. The other line to the right contains "Hail, Osirian, &c.....
.....
.....support thou the other great gods; may they give thee thy enemies under thee for ever and ever."

The four first lines to the left of this contain "the prayer of the Osirian military chief, superintendent of the signet, chief purifier? scribe of the divine books of Amoun-ra sonther....scribe of the viands of.... prefect of the abode of the inundation (Nilometer). Saotou, justified son of.... prophet of Sate (?) mistress of Eianho, Oohmos, or Iohmos (Amos, or Amasis), justified child of the lady of the house, Taisaenonkh justified, I come to thee Nephthys, thy sister, guardian of the land of Hosk, enshrouding to thee thy limbs, and arranging for thee thy arms, giving passage to thy breath—thy life; may they raise to thee thy arms .....do not lament thy fault for ever and ever.

The prayer to the right contains "the speech of the Osirian military chief, superintendent of the signet, priest of the temples of the white wall, attached to the.....at the abode of silver

(treasury), and of the inundation. (?) Saotou, justified son of.... of the priest of Sate, mistress of Elanho Iohmos or Amosis justified, child of the lady of the house Taisaenonkh, approach to thee thy sister Isis, rejoice thou to thy beloved, &c.: may she give passage to thy breath, may she ..... may she regulate thee, probing for thee thy faults, Osirian, &c., do not grieve for ever and ever."

At the end of the lid the goddess Isis is represented seated on her legs, having on her head a throne, stretching out her hands and arms, to which are attached wings, holding in one hand a symbol of life, in the other a small mast and sail—emblem of passage, or transmigration.

The left side, corresponding in arrangement to the right, represents the deceased standing, holding the small statue of truth, in offering to a train of deities; the hieroglyphics before contain the titles, name, and genealogy of the deceased; and in the field, it is stated, that 'he gives truth.' The first deity of the train is the god Re, Ra, or Phre, hawk-headed, having on his head the uræated disc of the sun, holding in his left hand the gom, and in the other the symbol of life. The hieroglyphics belonging to this division, are "The address of Ra, lord of the two worlds, the great God, lord of the heaven. I illuminate the body of the Osirian, Saotou, like the soul of the sun, in the abode of glory (stars); I grant illumination in the orbit, let him be not troubled, for ever and ever." 2. The god To, or Tore, having on his head the scarabæus, one of the solar types: the text here contains "The address of Tore: I give adoration (?) to the Osirian, &c., together with the guardian of my arms, I ..... him with the servants of the sun. Oh, Osirian!" &c. 3. Anubis, jackal-headed, "The address of Anubis, the director of the embalming. I have come to thee, Osirian, &c.: I suspend for thee thy arms: I subdue for thee thy limbs." (?) 4. Taut, Thout, or Thoth, ibis-headed; the hieroglyphics in this division contain "The address of Taut, the lord of Shmoun, the pure god, Osirian! &c.: I accord that thy name be established in the divine writings for ever; thou shalt be before (?) the Tot gods, abiding with and accompanying Osiris." 5. Neith, having upon her head the lower part of the pshent called the *toshr*, or red cap: "The address of Neith, the greater mother goddess. I ..... the south and north ..... be not afflicted for ever!" 6. The goddess Selk, having upon her head a scorpion, her distinctive emblem. "The address of Selk, I give good offering to the Osirian, &c.; I shew him to the other gods, guardians of

Tosor, they shall assemble beside thy head Osirian," &c. 7. SATE, having upon her head a uræus. "The address of SATE, mistress of Tapp, we grant thee to live in the land of Tosor, we submit thy limbs like the sun in the Amenti, establishing thy name in the mouth of the living." 8. MEUI, having upon his head an ostrich-feather. "The address of MEUI, the son of the Sun, set up thy face, Osirian," &c. . . . . 9. TAPNE, without any distinctive emblem. "The address of TAPNE, the daughter of the Sun, I give..... to the Osirian, &c.; of the wine (or milk) of the divine race. I grant that thy soul may seek thee, and that he may see like the sun, like his splendour." 10. HAPE, cynocephalus-headed. The address of HAPE. "I give justification to the Osirian, &c.; in Noutehir like the lords of the abode of glory: go thou to the heaven like the soul of the sun. I make nothing of thy enemies for ever and ever." 11. KEBHSNAUF, hawk-headed. "The address of KEBHSNAUF. I have come to thee, Osirian, &c.; I submit for thee thy limbs; I bind thy flesh, submit for thee thy arms; I give thee youth for ever, Osirian," &c.

The large horizontal line of hieroglyphics contains part of a prayer. From the unusual tenour and abbreviated manner in which it is written, it is almost impossible for a complete analysis of the whole. It commences the speech, "Hail, Osirian, superintendent of the abode of the river (?) Saotou justified set out with offering to the sun; go thou to the parhedals of the great god: manifest thyself in going to the solar abode of the two truths, enshrining thy soul," &c.

The series upon the right side are perfectly analogous to those on the left; the deceased is represented standing as before, with a garment from the loins to the ankles, called *basoui*, tied by a girdle round the waist, and holding in his hands a figure of Truth to a train of deities in compartments, formed by perpendicular lines of hieroglyphics, containing a series of hortatory addresses similar to those upon the other side. 1. THMOU or THÔM, having upon his head the pschent. The hieroglyphics record "the speech of THÔM. I lead to my orbit the Osirian, &c. Saotou in the Amenti; I enshrine his body; I ..... his adoration (?) in the abode of glory." 2. OSIRIS pethempamentes, having upon his head the otf. "The address of OSIRIS pethempamentes. I give life to the Osirian, &c.; I lead him to the gods; I accord that he may go and abide in the abode of glory, like the stars (or gods) of the race of the earth and heaven." 3. ANUBIS, jackal-headed.

"The address of ANUBIS, the director of the embalming. I have come to thee, Osirian, &c.; I fill thee with bitumen (?); I manifest thee to the eye of Horus ..... illuminating thee with thy light." 4. HARSIESI, hawk-headed. "The address of HAR-SI-ESI. I have come to thee, Osirian, &c.; set thyself up to the gods; live thou, and establish thyself for ever, avenging thee of thy enemies." 5. ISIS, having upon her head a throne. "The address of ISIS, the great mother-goddess. I have come to thee, Osirian, &c.; I appear beside thee; I will manifest thee to the gods, annihilating thy enemies, and directing thee to the other gods." 6. NEPHTHYS, having upon her head a basket and house, her name. "The address of NEPHTHYS. I have come to thee, Osirian, &c.; I appear beside thee; thou shalt be a god; I am a giver of life like pethempamentes; grieve not for ever and ever." 7. SOAVEN, having on her head a vulture klaft. "The address of SOAVEN, the white region (?) mistress of Phos (?) I give water (?) to the Osirian, &c.; at the good Ement. I lead him to the divine .... to the grain (?)" .... 8. SEB. "The address of SEB, the youngest of the gods. I have come to see the Osirian, &c.; my eldest son, the regulator of his brethren, I tell thee, you are of my race for ever and ever." 9. NETPE, having upon her head a vase. "The address of NETPE, the great mother of the gods. I give water to the Osirian, &c.; I serve in the bark of the sun; I appear above thy head, placing it under me like the sun in his bark." 10. AMSET. "The address of AMSET. I establish (set up) my father, the Osirian, &c.; I enwrap his flesh; I put down his arms; I lay out his limbs to the gods like pethempamentes." 11. EAOUMAUTF, jackal-headed. "The address of EAOUMAUTF. I have come to thee, Osirian, &c.; I suffuse the essence (soul) of the sun over thy body; I support thee, mayest thou not fall, but be established on thy legs."

The large horizontal line above contains a prayer similar in tenour to that upon the other side, and rather plainer in its general purport. It is the prayer, "Hail, Osirian, &c. Saotou incline thy head ..... thy limbs, place down thy arms, bend thy legs (?) guard thy flesh, establish thy mouth at the gates of the pure souls, manifest thyself to him who is attached the construction, that he may fashion thy arm, and accompany thee to the heaven, to thy father Seb, may he ..... in stretching (?) to thee his arm to direct thee."

The scene at the head of the sarcophagus represents a series of

figures, the individual meaning of which it is difficult to trace; two gigantic and elongated arms rising from the bottom hold in each hand a shorn male figure of diminished proportions, who pours a stream of liquid from a vase over a mummied figure, having upon its head a disc; between them four vertical lines of hieroglyphics, reading from right to left, affirm "that the god in these delineations accompanies (?) the disc as it goes and proceeds, illuminating the darkness under his sandals, viz. under his feet. His soul proceeds, and is elevated to the sun ..... their spirits stalk like giants to the sun, their bodies remain in their abodes." The subject traced between these two arms represents a mummied figure, standing profile to the right, having on his head a disc, above which is another disc, from whence drops a star by two links: at each side is a uræus facing. The text here, although not quite perfect and intelligible, is still sufficiently explanatory. "The god in this picture (represents) the hours of the sun as he goes with placing down his arms and .... his limbs; he guards the hours, as he goes with the darkness under his sandals: his uræi will guard him .... the hours."

"The Tot gods in these pictures will ..... the Sun, will magnify and elevate that god in his orbit of Amoun ..... the Tot gods .... their spirits will elevate and magnify the Sun, their bodies will remain in their abodes ....." The other texts contain similar explanations of this scene, which bears some analogy with the closing scenes of certain rituals, with regard to the ultimate manifestation to light.

The scene at the feet of the chest represents a scene in which the Bari of the Sun, or Tori, having the prow and stern terminating in a lotus flower, is represented passing over the symbol of the hills; in the centre of the disc is represented the ascending scarabæus, emblem of the god To, or Tore (Tor): around the disc is entwined the gigantic serpent called Apoph, holding its tail in its mouth. In the bark are two male figures without any attributes, both facing the prow; and at the stern are a pair of paddles and high oarlock. Underneath is the usual symbol of the hills; and in it are represented seven male deities, seated, with their knees raised profile to the right: above, is the goat's head and neck, entitled 'the god'[7]—emblem of Chneph, or Chnouphis: on each side is the deceased kneeling, in the act of offering.

[7] This deity is also frequently called Hâ—'limb, himself, he who is,' and here 'the god:' all referring to the creative power of this type. (See 'Ch. Gr. Eg.' p. 91. Wilkinson, 'Mat. Hier.')

In presenting this detailed account of the scenes represented, and the texts, the ellipses have been indicated by dots; and it will be perceived, that, partly owing to the erasure of several symbols, and partly owing to the new nature of a portion of the texts, the whole will not at present admit of a solution. Many portions, however, contain important notions connected with the psychology and the mythology of the Egyptians.

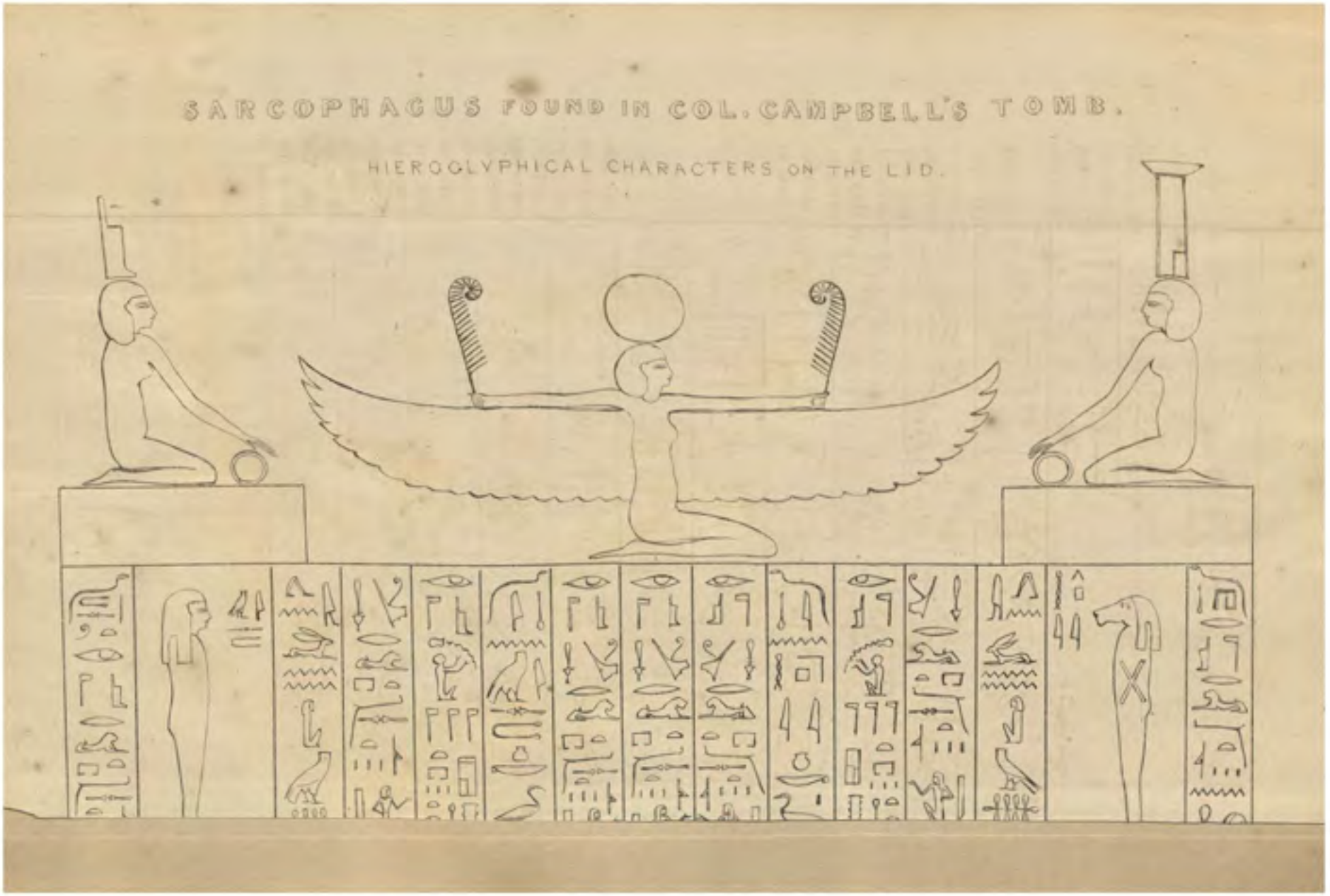
The deities, although not precisely the same there as have charge of the various portions of the body, consist of the principal forms of the Pantheon; and, as will readily be perceived, utter a number of addresses relative to the functions which they perform, or are supposed to perform in the Hades. The prayers around the sides in the larger bands of hieroglyphics must be sacerdotal addresses to the deceased, if not invocations of deities — they are necessarily more obscure in their tenour, partly from referring to subjects hinted at rather than definitely expressed. The analysis of them is far from complete; and it would, at present, be rash to offer a particular solution of their contents.—Mr. Birch.

Note A.

The coffin of Hapimen, an officer of the very highest rank, which consists of the chest or lower part of the Sarcophagus, was presented to the British Government, by the Ottoman Porte, on the evacuation of Egypt by the French, consequent upon the capitulation of Alexandria, in 1807, by General Menou. It is of large dark granite, and of the era of the Psammetici, having probably had a cover of the shape of the sarcophagus of Saotou. On the exterior, are Isis and Nephthys kneeling upon symbols of resplendence over discs, the four genii of the Amenti; the two Anubides, or Anubis; and Hop Hioue Ch., the two symbolic eyes, &c.; with appropriate invocations, very similar in their tenour to those on the sarcophagus presented by Colonel Howard Vyse. The interior contains around the various deities, to whom the different parts of the body are dedicated, with inscriptions before them to that effect, and on the bottom is a full length, full-face figure, of the goddess Netpe. The hierologist will perceive, by an inspection, how much the texts of this important monument illustrate, and are illustrated, by the present of Colonel Howard Vyse.

SARCOPHAGUS FOUND IN COL. CAMPBELL'S TOMB.

HIEROGLYPHICAL CHARACTERS ON THE LID.



Note B.

The fragment of the basalt Sarcophagus (B. M. 66) which has belonged to Pipheirgot, an *attaché* of the scribes, prefect of the body-guard, pastophorus priest, resident in the palace, &c., son of Nashthariibai and Herineith, of which a counterpart exists in the Ashmolean Collection of Oxford, illustrates the scene at the head of the Sarcophagus of Colonel Vyse, which is of a nature rather difficult to explain. The text, which is sufficiently explicit, refers to the procession of the sun through the firmament, accompanied by the hours, and the deities called in the Ritual the Totonen or Tot gods, the "established deities," as "the Sun who goes with his body, and his limbs, who guards the hours, going in the darkness," &c. The analogy of this fragment, with the scenes cited at the head, will be readily perceived.—Mr. Birch.

INSCRIPTIONS.

Great Pyramid.

Basement stones -	Excavated 1837.
North-eastern excavation	—
North-western excavation	—
Northern air-channel -	Opened May 22d, 1837.
Southern air-channel -	— May 29th, 1837.
Wellington's chamber -	Wellington's chamber, March 30, 1837.
Nelson's chamber -	Nelson's chamber, April 25, 1837.
Lady Arbuthnot's chamber	Lady Arbuthnot's chamber, May 6, 1837.
Col. Campbell's chamber	Col. Campbell's chamber, May 27, 1837; H. Raven and Hill.

Second Pyramid.

Lower entrance -	Opened April, 1837.
Stone quarries - -	Excavated 1837.
North-western angle -	—
South-western angle -	—

Third Pyramid.

Shaft in interior -	Excavated 1837.
Entrance -	Re-opened July 29, 1837.

Fourth Pyramid.—Re-opened July 4, 1837.
Fifth — — July 1, —
Sixth — — July 27, —
Seventh — — July 28, —
Eighth — — July 29, —
Ninth — — — —
Campbell's Tomb.—Excavated 1827.

LIST OF ARTICLES RETAINED.

	Where found.
Three broken earthenware pots	Great Pyramid.
Earthenware lamp	Campbell's Tomb
Two fragments of earthenware	Great Pyramid.
Two pateræ	—
Two cups	—
Two round stones	Sixth and Eighth Pyramids.
Piece of stone	Great Pyramid.
Small bronze hoop	Eighth Pyramid.
Fossil	Sphinx.
Fragment of a stone	Eighth Pyramid.
Five small glass bottles	Campbell's Tomb.
Nine broken pieces	—
Small figure, leaf gold	—
Thirty green idols	—
Piece of iron	Great Pyramid.
Three pieces of stone	—
Three wooden birds	Thebes.
Earthenware jug	—
Torso of a king in basalt	—
Some bronze rings	Upper Egypt.
Piece of stone	—

Exclusive of the above, the Bones and Pieces of Mummy-Board found in the Third Pyramid, of which a separate list was given to Colonel Campbell, viz.:

		Where found.
Right leg	Patella	Third Pyramid.
	Fibula	—
	Femur	—
	Tibia	—
	Sacrum	—

		Where found.
Left leg	Calcis	Third Pyramid.
	Fibula	—
	Femur	—
	Tibia	—
	Sacrum	—
	Patella[7]	—
Two floating ribs		—
Coxigis		—
Some dorsal and servial vertebræ		—
Fourteen short pieces of mummy-board		—
Four long pieces with hieroglyphics		—
Four other pieces		—

List of other Articles delivered to Col. Campbell.

	Where found.
Votive arrow-head of bronze	Near Third Pyramid.
Bronze nail	—
Broken stone	Third Pyramid.
Four green cups in a group	Campbell's Tomb.
Green cup	—
Piece of brass or bronze	—
Two green beads	—
A bone eye	—
Three large coins	—
Three smaller coins	—
Small bone sistrum	—
Small bone cross	—
Five broken pieces of bronze	—
Stone with hieroglyphics	Fourth Pyramid.
Earthenware fragment	Great Pyramid.
Piece of black stone	Campbell's Tomb.
Broken vase of alabaster	—
Round piece of alabaster	—
Collection of bone ornaments	—
Some leaf gold and a bead	—
Some leaf gold and bone ornaments	—
Seventy-three green idols	—
Three hundred and ninety-seven green idols	Chiefly Campbell's Tomb.
Coarse sphinx in two pieces	Shaft northward of Sphinx.
Fragment of a stone	—
Two large earthenware jugs	Campbell's Tomb.
Fifty-nine broken pieces of earthenware	Chiefly Campbell's Tomb.
Fifty-nine pateræ	Near some of the Pyramids.
Eight cups	Near some of the Pyramids.

[7] The left foot appears to have been deformed, and the knee to have been stiff.

Section of Rock from north to south along the eastern front of the Pyramids of Gizeh.

The plane of the section is north and south; but it follows the dotted line A A A in the accompanying plan.

It shews the elevations and positions of the buildings, and the levels of the High and Low Niles, in 1837 and in 1838; and also the levels of the water in the well of sweet water (near the tents), of that in the well near the palm-trees, and in the shafts, Nos. 1, 2, and 3. The depth of the foss in Campbell's Tomb, and of the shaft sunk in the subterraneous apartment of the Great Pyramid, are likewise marked.

A table of the levels taken in the summer of 1837 is also added, and the following remarks received from Mr. Perring:—

Shaft, No. 1, between Campbell's Tomb and the Second Pyramid.

On the 7th of June, 1837, the level of the river (it being Low Nile) was 158 feet below the base of the Great Pyramid.

The level of the water in the shaft was 154 feet below the base of the Great Pyramid; and it was therefore four feet higher than the river.

On the 23rd of October, 1838, the level of the river (it being High Nile) was 137 feet 3 inches below the base of the Great Pyramid.[8]

The level of the water in the shaft was 155 feet 4 inches below the base of the Great Pyramid;[9] and it was therefore 18 feet 1 inch lower than the river, as the water in the shafts had decreased 1 foot 4 inches.

Shaft, No. 2, west of the Sphinx.

On the 7th of June, 1837, the level of the water in the shaft was 149 feet ½ inch below the base of the Great Pyramid; and it was therefore 8 feet 11½ inches higher than the river.

On the 23d of October, 1838, the level of the water in the

[8] The inundation of 1837 was insufficient, and a scarcity was the consequence; that of 1838 was considered rather above average. The rise in the former year was 19 feet 3 inches; in the latter, 24 feet 10 inches.

[9] This shaft was frequently examined between June 1837 and October 1838, and the decrease of the water was found to be gradual. It was supposed to be occasioned by evaporation; as in other places, where the water was less exposed to that effect, the decrease was less.

FIG. 5.

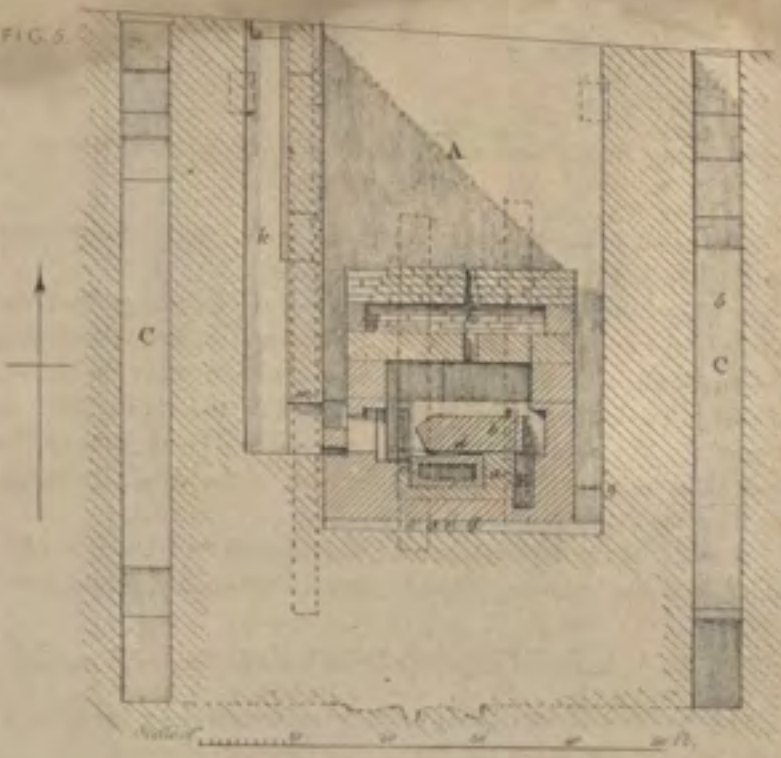
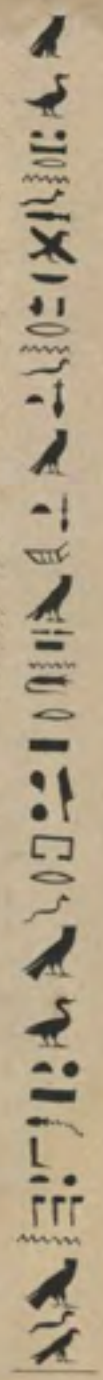
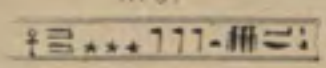


FIG. 7.

FIG. 6.



Nº 8.



CAMPBELL'S TOMB.

FIG. 5. SECTION LOOKING NORTH — FIG. 6. HIEROGLYPHICS ON STONE OVER SARCOPHAGUS — FIG. 7. LID OF SARCOPHAGUS. FIG. 8. HIER^{cs} AT END OF SARC^{us}

shaft was 149 feet 4½ inches below the base of the Great Pyramid; and it was therefore 12 feet 1½ inch lower than the river, as the water in the shaft had decreased 4 inches.

Foss in Campbell's Tomb.

The upper surface of Campbell's Tomb is 79 feet 9¾ inches below the base of the Great Pyramid. The depth of the foss is 73 feet: it was therefore 5 feet 2¼ inches higher than the river on the 7th June, 1837, and 15 feet 6¾ inches lower than the river on the 23d October, 1838.

Shaft, No. 3, north of Sphinx.

On the 7th of June, 1837, the level of the water in the shaft was 149 feet 6¼ inches below the base of the Great Pyramid; and it was therefore 8 feet 5¾ inches higher than the river.

On the 23d of October, 1838, the level of the water in the shaft was 151 feet 6¼ inches below the base of the Great Pyramid; and it was therefore 14 feet 3¼ inches lower than the river, as the water in the shaft had decreased 2 feet.

Well near the Palm-trees.

On the 7th of June, 1837, the level of the water in the well was 147 feet 10¾ inches below the base of the Great Pyramid; and it was therefore 10 feet 1¼ inch higher than the river: and on the 23d of October, 1838, if the water had not decreased, it would have been 10 feet 7¾ lower than the river.[1]

Well of Sweet Water near the Tents.

On the 7th of June, 1837, the level of the water in the well was 146 feet 3½ inches below the base of the Great Pyramid; and it was therefore 11 feet 8½ inches higher than the river; and on the 23d of October, 1838, if the water had not decreased, it would have been 9 feet ½ inch lower than the river.

It will appear from these details, that, contrary to the received opinion, these waters do not proceed from the river. The Arabs consider that they are occasioned by rain; but very little rain fell during the winters of 1837 and of 1838; and, as will be seen in the Table of Levels, the water in the well near the tents only lost a foot in the course of the day. This well, although it was in constant use, and was sometimes so exhausted that water was procured

[1] Mr. Perring has not sent any additional information respecting these wells. The water at the palm-trees is brackish.

from other sources, was soon replenished, and never remained dry, notwithstanding it was at that time 11 feet 8½ inches above the river. The water would therefore appear to proceed from a spring, and, if so, it is the only spring that has been discovered in Egypt; which may account for the sanctity of the spot, and also for the history of the Shepherd Philition having fed his flocks in the neighbourhood, &c. These remarks are, however, merely conjectures, as nothing certain can be known till the site of the place is cleared from sand, and the subterraneous passages well examined. I have already remarked, that a sarcophagus at the bottom of the shaft north of the Sphinx, No. 2, contained, in the summer of 1837, 3 or 4 inches of water; by which it would appear, that the water must have at one time covered the top of it, unless it be supposed to have been purposely placed within it. It is to be observed, also, that the foss in Campbell's Tomb was dry, although it was 15 feet 6¾ inches below the High Nile of 1838.

LEVELS ON THE SEVENTH OF JUNE, 1837.

	Feet.	Inches.
From the brink of the well of sweet water to that of the well at the palm-trees - - -	0	8¾
From the brink of the well at the palm-trees to the top of the shaft north of the sphinx, No. 3 -	23	8½
From the top of the shaft north of the sphinx, No. 3, to the top of the shaft west of the sphinx, No. 2 -	8	5¾
From the top of the shaft west of the sphinx, No. 2, to the south-eastern angle of Campbell's Tomb -	13	10¾
From the south-eastern to the south-western angle of Campbell's Tomb - - -	2	7¾
From the south-western to the north-western angle of Campbell's Tomb - - -	3	4¾
From the north-eastern angle of Campbell's Tomb to the top of the shaft, No. 1, between Campbell's Tomb and Second Pyramid - -	35	11¾
Ascending	88	10
From the north-western to north-eastern angle of Campbell's Tomb, descending - - -	2	7½
Total ascent from the brink of the well of sweet water to the brink of the shaft between Campbell's Tomb and the Second Pyramid, No. 1, ascending -	86	2½

	Feet.	Inches.
Brought forward - - - - -	86	2½
From the top of the shaft between Campbell's Tomb and the Second Pyramid, No. 1, to north-eastern angle of Great Pyramid, ascending - -	40	5
	126	7½
Depth from the brink to the water in the well of sweet water - - - - -	19	8
It will therefore appear that the base of the Great Pyramid was higher than the water in the well in that month - - - - -	146	3½
The depth to the water was taken early in the morning. In the evening, after the well had been exhausted, the depth was 20 feet 8 inches.		
Depth from the brink to the water in the well of sweet water, on the 7th June, 1837 - -	19	8
In the well at palm-trees, depth to the water on the 7th June, 1837 - - - - -	22	0
In the shaft north of sphinx, No. 3, depth to the water on the 7th June, 1837 - - -	47	4
In the shaft west of sphinx, No. 2 - -	55	4
In the shaft between Campbell's Tomb and Second Pyramid, No. 1 - - - - -	113	7
From the water in the well at the palm-trees to the under side of the great stone at the bridge in the southern mound - - - - -	5	3½
The water in the well at the palm-trees was lower than that in the well of sweet water, when the water in the latter had not been used - -	1	7½
And, in the evening, when the water has been used -	0	7½
The water in the shaft to the north of the sphinx, No. 3, was lower than that in the well at the palm-trees - - - - - -	1	7½
The water in the shaft west of the sphinx, No. 2, was higher than that in the shaft north of the sphinx, No. 3 - - - - - -	0	5½
The water in the shaft between Campbell's Tomb and the Second Pyramid, No. 1, was lower than that in the shaft west of the sphinx, No. 2 - -	4	11½
The water in the shaft, therefore, between Campbell's Tomb and the Second Pyramid, No. 1, was lower than the water in the well of sweet water -	7	8½

SIGNORE CAVIGLIA.

It was not my intention to have taken up the time of the public with any differences of opinion that might have arisen between M. Caviglia and myself, nor with any unnecessary detail respecting that gentleman's conduct; but since the preceding pages were written, a statement has appeared in an Edinburgh journal,[1] containing a direct attack upon Colonel Campbell and myself, in what are called translations of two letters, sent by M. Caviglia for publication, through a correspondent at Manchester.

As for the correspondent himself, and his prefatory remarks and assertions, it is only necessary to observe, that the assumed impartiality with which he introduces the subject, by stating, that "The facts alleged in these letters rest for proof entirely upon the authority and veracity of the writer," is a mere pretence; for, without any previous inquiry into the truth of the statements, he decides the question at once in M. Caviglia's favour, whom he describes as "an amiable and enthusiastic devotee at the shrine of antiquarian learning, who has sacrificed country, home, friends, and fortune, for the indulgence of the refined, though eccentric, taste of exploring the hidden mysteries of the Pyramids and Tombs of Egypt." How far this modest description applies to the object of it, those acquainted with M. Caviglia's history can best judge. And how far the anonymous writer, in his frequent conversations, in the month of January, 1837, was enabled to ascertain the extent of that gentleman's knowledge of the interior of the Pyramids, and of the mysterious secrets which he had confidentially imparted to me, by the "prudent reserve" maintained towards himself (a person, of whose perfect integrity there could have been no reason to doubt), it is not for me to determine; a reserve, however, which, it is to be remarked, that M. Caviglia could have had little difficulty in maintaining, because he was most entirely ignorant of the interior of the Pyramids, and likewise completely mistaken in all the conjectures he had formed about them, as will afterwards be shewn.

With respect to the tirade against the Duke of Wellington and Colonel Campbell, his grace's fame and character require no

[1] Tait's Magazine. See page 168, &c.

other defence against such aspersions, than their own intrinsic excellence and lustre; and whatever enemies Colonel Campbell may have necessarily made amongst the obscure and unprincipled adventurers with which Egypt abounds, by a faithful and diligent discharge of his official duties, attacks, such as the one in question, and that alluded to in my Journal of the 10th of April, can never, in the opinion of any respectable person, bring for one moment into question his unblemished honour, and integrity of purpose. As to the name of Wellington's Chamber, I am unwilling to alter it for that of O'Connell, because I am neither reformer nor republican; or for that of Caviglia, because that gentleman had no more to do with its discovery than his anonymous advocate at Manchester.

With regard, however, to the object in view—namely, the two letters to which M. Caviglia's name is affixed—it is to be observed, that the one dated the 2nd of April, 1837, is for the most part a translation of an account published in Italian, apparently by M. Caviglia himself, in the "Maltese Gazette," of the 22d of March,[2] with the exception of the introduction of the name of Mr. Agnew (a gentleman connected with the house of Thurburne and Briggs at Alexandria, and not a traveller, as he is there described); of the omission of the height of forty-three feet, to which M. Caviglia has most unaccountably imagined a coating of red paint to have extended upon the surface of the Second Pyramid; of the suppression of several complimental expressions; and of certain alterations and additions necessary for the epistolary shape of the English translation. As M. Caviglia cannot write in English, the letters in question may be considered as the production of the anonymous correspondent at Manchester. It is, however, of little importance to whom they are ascribed; nor should I have thought them worthy of notice, especially the first, (which may be considered, in its Italian version, as a mere newspaper puff,) had it not been for the grave charges contained in them against Colonel Campbell and myself. It is asserted that M. Caviglia had, after years of labour and study, made discoveries, which he confidentially mentioned to me, and that a determination existed between Colonel Campbell and myself "to dispense with his services, and to profit in concert by the results of his previous studies and researches in these monuments, which he had so freely imparted," and by which, after he had been dismissed from the

[2] See page 166.

Pyramids, I subsequently directed my operations to a favourable conclusion; that, because the firmaun obtained for Colonel Campbell, Mr. Sloane, and myself, was accidentally in M. Caviglia's name, as he was to be employed under it, it had been unjustly taken from him "at the very moment when, after years of labour and study, he was about to realize his discoveries." And it is also a subject of complaint that Colonel Campbell refused to apply for another firmaun, in opposition to that actually in operation. The falsehood of the first scandalous assertion will be manifest from the facts themselves; and those who take any interest in the matter, can form their own conclusions respecting the characters of people who could invent, or who could afterwards publish, such base calumnies, without having previously ascertained their probability or truth. With respect to the firmaun being in M. Caviglia's name, I requested Colonel Campbell to state in writing why it happened to be so; and I subjoin a copy of his letter, with an official translation of the document itself, received at the same time.[3] As to M. Caviglia's request for another firmaun, in direct hostility and opposition to that above mentioned, all comment or remark are unnecessary. It is likewise stated, that Colonel Campbell and myself went to the Pyramids, and expressed great satisfaction at M. Caviglia's proceedings, &c. This is a mistake, for I never saw Colonel Campbell at the Pyramids till after M. Caviglia's departure from them; when, on the 14th of April, he came there with M. De Laurin, the Austrian consul-general. It is also said, that on the 10th of February, 1837, I proposed to M. Caviglia "to employ three hundred additional men, when he was superintending the labour of one hundred and fifty workpeople." Now the number of people employed on that day, including children, and the parties in the Great and Third Pyramids, was one hundred and thirty-three. M. Caviglia being absent the whole of that day at Cairo, I paid the people myself, and gave him the account on his return in the evening. These errors in numbers and facts I should treat as of little or no consequence, were it not for the deductions attempted to be drawn from them. With regard to the assumed partnership, it is manifest that M. Caviglia always considered himself as conducting the affair under Colonel Campbell and myself; and that, in fact, from the many calls on Colonel Campbell's time and attention, the arrangements were in a great mea-

[3] See page 164.

sure left to me. M. Caviglia cannot but recollect the different conversations we had on this subject, particularly those mentioned in this Journal on the 24th and 27th of January, and on the 4th of February; and although I did not put an entire stop to his proceedings, he may likewise remember, that after he had engaged on the 4th of February, in consequence of my observations to leave off for a time his excavations at the two mummy-pits, he thought it necessary to apply to Colonel Campbell for authority to alter that engagement; and that he came to my room at the hotel in Cairo, early in the morning of the 6th, to inform me of his having so done; and he must remember that he likewise received on that day a letter from Colonel Campbell, directing him to adhere to his engagement with me, which letter Colonel Campbell immediately wrote, when he was informed by me of the real circumstances of the case. As an additional proof, I beg also to call to his recollection the programme of his intended operations, which he offered for my approval on the evening of the 10th of February, 1837.

The firmaun, in fact, entirely originated in a proposal made by me to M. Caviglia, and afterwards communicated to his intimate friend Mr. Sloane, on the 23d of February, 1836, to undertake operations at my expense at the Pyramids;[4] for, upon my return to Alexandria, on the 25th of October, in the same year, I found that the arrangement, which afterwards took place, had been already concluded by Mr. Sloane with Colonel Campbell before I was aware of the circumstance, and that, in consequence of my former proposal, my name was included in it. Respecting any recompense which M. Caviglia was to receive, I was not informed of it; but I have living testimonies to prove the civility and attention paid to him by me in every instance during the time he was employed at the Pyramids; and also my own accounts to shew that, both during my presence at that place, and my absence in Upper Egypt, independently of the joint subscription, he was under no restriction, as far as expense was concerned, either for his own personal convenience or for the works under his superintendence; and that whatever articles or stores might have been judged necessary, they were to be obtained by application to Mr. Hill.

M. Caviglia arrived at Cairo on the 15th of November, 1836,[5] and, after various arrangements, went to the Pyramids on the

[4] See Vol. I. page 13. [5] See Vol. I.

17th of that month. I joined him on the 21st, and, having agreed upon the works to be carried on, I left the Pyramids for Upper Egypt on the 24th of the same month, and returned to them on the 24th January, 1837, full of expectation in consequence of the forwardness at which M. Caviglia, in two letters (dated the 22d of December, and the 17th of January), mentioned the works at the Pyramids to have arrived. I could not, therefore, but express my disappointment at finding, on my return, that little or no prospect of any discovery existed in the First and Third Pyramids, and that not a man was at work at the Second, but that the bulk of the people were employed in searching for mummies,—an operation mentioned in his letters as merely a secondary object. His excuses, in answer to my observations on this subject, were the scarcity of men, the necessity of occupying the ground from a fear of interruption from a French faction, &c.

Notwithstanding all this, however, matters went on, as detailed in my Journal, till the 10th of February, when, in M. Caviglia's absence, I had an offer of two hundred or three hundred additional men,[6] which I gladly accepted, being extremely desirous, after all the expense incurred, and inconvenience experienced, to endeavour at least to make some discoveries in the Pyramids before I returned to England, which I wished to do without further delay. I accordingly mentioned the circumstance to M. Caviglia on his return from Cairo (as stated in my Journal), who, to my surprise, made one objection after another, and, on the following morning, came to me when I was at breakfast in the tent, and, without the smallest provocation, behaved in so extraordinary and offensive a manner, that the least I could do was instantly to order off the people, whom I had brought from Cairo to work with the boring-rods, &c. and to break off all communication with him. This "amiable and enthusiastic devotee," who complains that I was allowed "to trample under foot those courtesies of society which are reciprocally due from one individual to another," was so good as to tell me (in the presence of Mr. Perring), respecting the additional men whom I intended to employ, that he was master, and that no person dared to work there without his orders, with many other complimentary expressions;[7] and, upon my desiring

[6] The Shieks of the villages were anxious to prevent the employment of their people at a neighbouring canal.

[7] As far as I recollect, the words he used were, "Je suis maître, et personne que moi n'ose travailler ici; si vous avez l'argent, moi j'ai la tete," &c.

him to return a second subscription of 40*l.*, which I had just advanced, he had the civility to throw it down most indignantly on the breakfast-table, tied up in an old stocking, which I carefully returned with my best compliments, as soon as I had taken out the money. Now, considering that M. Caviglia had been employed at my expense, excepting 40*l.* subscribed by Colonel Campbell, and a similar sum said by him to have been paid by Mr. Sloane; that, instead of going effectually to work upon the Pyramids (the original object of the undertaking), he had employed a considerable part of the money on a totally distinct object, so that, on the 24th of January, 1837, little or no progress had been made in these buildings; that also, notwithstanding my remonstrances, he still persisted in searching for mummies, and not only refused himself to employ additional men, but assumed in so extraordinary a manner the right of objecting to their employment by myself; —it cannot, I think, be a subject of wonder to any one that I instantly gave up all communication with him, that Colonel Campbell directed him to withdraw, or that I afterwards refused his application to be again employed.

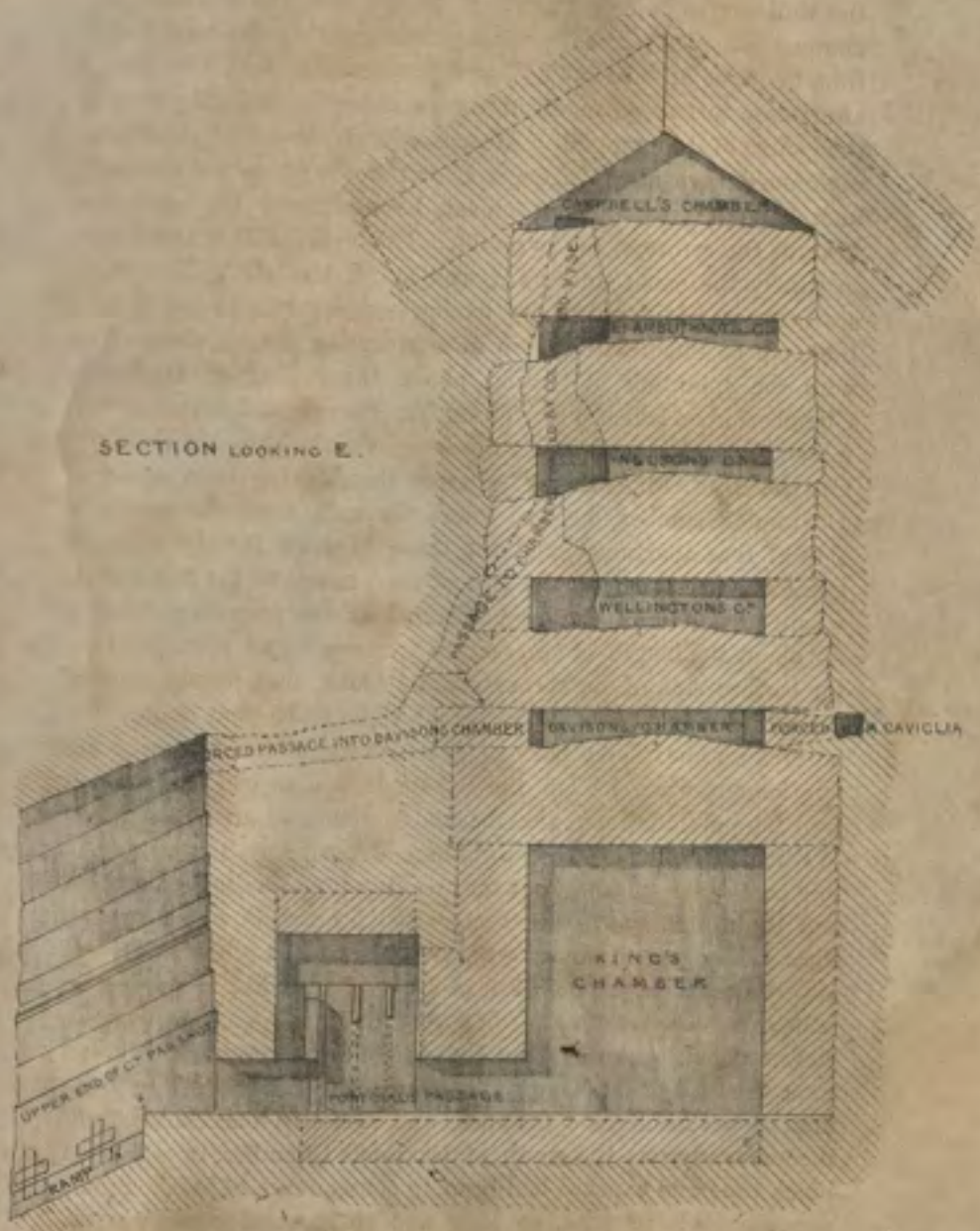
With respect to the information he boasts of having obtained by a life of labour and study, and of the breach of confidence with which I am charged in having taken advantage of his secrets after his dismissal, I shall state the operations he carried on at the three Pyramids, and their results; and also advert to those which have been subsequently attempted, in consequence of any casual observations or remarks he may have made; and thus at once shew the extent of the information he possessed, and of the obligations he so confidently asserts I was under to him in my future operations.

At the Great Pyramid, misled by an erroneous opinion of the vertical direction of part of the southern air-channel, which he stated that he himself had ascertained by actual experiment, M. Caviglia expended much time and labour in enlarging an excavation, begun by him some years before, on the southern side of Davison's Chamber. The height of the King's Chamber is nineteen feet one inch; the average thickness of the granite blocks forming the roof of the King's, and floor of Davison's Chambers, is at least three or four feet, which, together, amount to about twenty-two or twenty-three feet; the height of the mouth of the channel from the floor of the King's Chamber is three feet.[8]

[8] See plan.

Now, M. Caviglia stated that, after passing horizontally through the wall of the King's Chamber for five feet, the southern air-channel ascended vertically for fourteen (making the total height from the floor of the King's Chamber seventeen feet), and that it afterwards turned off in an unknown direction, probably towards the centre of the pyramid. He accordingly deepened the above-mentioned excavation, in order to cut down upon the channel; and, having failed in that object, he continued the operation towards the centre of the pyramid. This excavation is to be seen in nearly the same state as it was at M. Caviglia's departure, scarcely any additional labour having been expended upon it, and that, not so much with a view of intercepting the air-channel, as with the intention of getting above the ceiling of Davison's Chamber, upon which undertaking Mr. Perring and myself determined after our examination on the night of the 12th of February.[9] On the 13th, Mr. Perring reported that, having been again in Davison's Chamber, he had taken the men from the southern side of that apartment, and set them to work for the sake of greater convenience at the end of the passage to the north of it, where a small stick had been inserted on the preceding evening for about the length of two feet up a crevice in an open joint on the eastern side of the corner granite block, that formed part of the ceiling of the chamber.[1] M. Caviglia states that he had discovered an unexplored passage, in which we were still prosecuting our labours when he left the Pyramids, and in which, he would lead the public to infer, that he had commenced an opening into Wellington's Chamber. Now, there is positively no passage in this part of the building but that leading into Davison's Chamber and the air-channel. The former had been open, at all events, since 1764; and the latter was, at the time, entirely unexplored, and remained so till the 29th of May, 1837,[2] when it was ascertained that no part of it was in a vertical direction as M. Caviglia had confidently asserted, but that it continued in one inclination from the wall of the King's Chamber to the exterior of the pyramid, at a considerable distance, and perfectly inaccessible from the excavation at the south of Davison's Chamber, in which so much time and expense had been, in consequence of M. Caviglia's unaccountable mistake, so long and so inconsiderately wasted. Had M. Caviglia ever entertained an idea of getting above Davison's Chamber, by any other means excepting by that of the

[9] See Journal. [1] See plan. [2] See Journal.



GREAT PYRAMID.

KING'S CHAMBER AND CHAMBERS OF CONSTRUCTION.

Scale of ____ Feet

Published by J. Fraser, Regent St. 1840

southern air-channel, it is manifest that instead of excavating downwards and towards the centre of the pyramid, he would have worked upwards in the calcareous stone on either the eastern or western side of that apartment.[3] The exact spot was of no consequence, excepting as it afforded greater facility for cutting through the stone, which was the sole reason why the one at the end of the passage was fixed upon; but if any great merit is to be attached to its selection, Mr. Perring should be immortalised; and it should be named, according to the ideas of the anonymous correspondent, "Perring's Hole, or Passage."

With regard to the northern air-channel, it appears, by M. Caviglia's Italian *exposé*, that in 1820 he tried to ascertain its direction (as many other people have done), by the insertion of long sticks, which led him to the conclusion that "there were other

[3] Since this statement was written, Lord Lindsay's book has been published, and the following passage will remove all further doubt on the subject. His lordship visited the Pyramids in December 1836, and, after describing the King's Chamber, and M. Caviglia's excavation along the course of the northern air-channel, he says: "'Now,' says Caviglia, 'I will shew you how I hope to find out where the southern passage leads to.' Returning to the landing-place at the top of the grand staircase, we mounted a ricketty ladder to the narrow passage that leads to Davison's Chamber (so named after the English consul at Algiers, who discovered it seventy years ago); it is directly above the King's Chamber, the ceiling of the one forming the floor of the other. The ceiling of Davison's Chamber consists of eight stones, beautifully worked; and this ceiling, which is so low that you can only sit cross-legged under it, Caviglia believes to be the floor of another large room above it, which he is now trying to discover. To this room he concludes the little passage leads that branches from the south side of the King's Chamber. He has accordingly dug down into the calcareous stone at the further end of Davison's Chamber, in the hopes of meeting it; once found, it will probably lead him to the place he is in quest of. And now, I am sure, if I have been happy enough to inspire you with a tithe of the interest with which I followed every winding of the pyramid, and of our cicerone's mind (itself a most extraordinary labyrinth), you will be glad to hear that there seems every probability of his soon reaching the little passage. Leaving a servant in the excavation, descending to the King's Chamber, and shouting at the hole, the man answered by striking on the stone distinct strokes, —as satisfactory a reply as could be wished for." With respect to the latter part of this quotation, I can only say that, believing upon M. Caviglia's authority that the air-channel was vertical, and that the excavation was consequently near it, I have repeatedly endeavoured to ascertain its direction, by listening in Davison's Chamber to noises made high up in the passage, but always without success; and the accompanying plan laid down by Mr. Perring will shew that it is impossible I could have done so. The sounds, therefore, mentioned by Lord Lindsay, must have been conveyed through the passage by which his lordship had ascended to Davison's Chamber.

apartments in the interior of this monument,"[4] and that, having failed, as might have been reasonably expected, in cutting through the blocks of granite, "assistito da quella costanza che gli è tutta propria, immaginò di aprire un nuovo sentiero nella pietra calcarea aderente al granito."[5] This excavation he followed up in his last operations to the extent altogether of thirty-six feet without any beneficial result, and the work was accordingly discontinued on the 13th of February. When this channel was ultimately opened from above, it appeared that, like that to the south, it had no communication with any other chambers,—a fact directly at variance with M. Caviglia's conjectures, formed "after years of labour and study;" which intense application might have been spared, if he had taken an excursion over the exterior of the pyramid, where the forced mouth of the northern air-channel, and the aperture of the southern, were plainly to have been seen. I have already mentioned that the one was discovered accidentally by Mr. Perring, and the other in one day by Abd El Ardi. Indeed, whoever has examined these extraordinary buildings must be aware how idle it is to talk of secrets and of study, about what there is little or no analogy, or data, to go by. Proofs are not wanting, that most of the discoveries at the Pyramids (excepting those of the Caliphs, who appear to have possessed some knowledge of their interior formation), have been the result of conjecture, and many of mere accident. It is only necessary to instance M. Caviglia's interesting discovery in 1817, of the communication between the upper and lower passages by means of the well. It is 191 feet 6 inches in depth, and it had been examined in 1764 by Mr. Davison for 155 feet, so that the space of 36 feet 6 inches was all that remained unexplored at that time; and a good deal of sand was removed by the French in 1800. The difficulty of respiration, however, of course remained the same till the lower passage had also been cleared out.[6] And it seems, by Mr. Salt's account, that, notwithstanding his perseverance and industry, M. Caviglia failed entirely in his attempt to penetrate through the well, and was obliged to give up the operation as hopeless;

[4] It is scarcely possible to enter the King's Chamber without observing the two air-channels. Greaves, who travelled in 1638, describes the opening of that to the south to have been forced, and also to have been blackened with smoke.

[5] See page 166.

[6] It is surprising that the French did not attempt this; but they appear to have been most unaccountably ignorant that the entrance-passage went on beyond the forced communication with the ascending passage to the chambers above.

but that, in clearing out the lower passage leading to the subterraneous apartment, (which, however, had also been entered by Mr. Davison, to the extent of 131 feet,) he unexpectedly effected his former purpose,[7] as the rubbish in the well naturally fell down as fast as it was taken out at the bottom, and thus M. Caviglia, whilst directing his attention to another object, unintentionally made a most important discovery, and put an end to the doubts and speculations, that had existed respecting the well for above 2000 years.

At the commencement of our operations, I certainly imagined that M. Caviglia was better acquainted than any other person with the interior of the Great Pyramid; but my confidence in his judgment and skill was considerably lessened when he proposed that the boring-rods should be used on the granite floor of the King's Chamber, and also that they should be worked downwards from the exterior of the pyramid upon the northern end of the great passage, for the sake of ventilation; a distance, in his opinion, of about 40 feet, but which afterwards proved nearly 200 feet.[8] After this latter exposition of the knowledge he had so laboriously acquired of the relative distances of the several parts of this edifice, and after other similar instances, that could be advanced, I had not much reliance upon him.

The existence of a lower entrance at the Second Pyramid was obvious to any person, who examined the reascending passage from the forced portcullis in the interior. It was therefore determined, when I set out for Upper Egypt, on November 24th, 1836, that the rubbish on the outside should be removed in search of it. The confined and awkward manner, in which that work was first set out, is apparent, and has prevented the proper completion of it; and the desultory and unsatisfactory way, in which it was carried on, sufficiently accounts for the little progress that had been made by the 13th of February.[9]

The disclosure of the short inclined passage, by the clearing out of the interior of this pyramid, has been already described.[1] It is certainly a curious discovery, but leads to no other conclusion than that it was made either for the purpose of ventilation during the formation of the excavated parts of the monument, or

[7] See Hall's "Life of Salt," vol. ii. p. 70.
[8] See vertical section of the Great Pyramid.
[9] See Journal, Vol 1.
[1] See p. 136, Vol. I.

that the original plan had been altered, probably on account of the nature of the rock, or of a different level having been taken for the base of the edifice. The length of this passage is 18 feet 6 inches; the depth from its floor to the ceiling of the lower inclined passage (with which M. Caviglia says it communicates by a well) is 4 feet 4 inches. Whatever, however, may be the amount of the discovery, I beg to assure M. Caviglia that due honour has been done to it by the insertion of his name in Mr. Perring's plans and admeasurements.

I have already mentioned the supposed Hebrew character beneath which M. Caviglia informed me, on the 27th January, 1837, that a shaft was to be found. Excavations have since proved that the cutting is the beginning of a doorway, and that, instead of a shaft, there are the remains of stone quarries.

At the Third Pyramid, M. Caviglia had begun a narrow passage from the southern end of the upper excavation made by the Mamelukes, "in the hope," as he says, "of being able to penetrate *more* easily the interior than by searching for an entrance at the base;" which proves that, "after years of labour and study," he knew no more of the interior of that pyramid than of the others, as the entrance is considerably below the lower excavation, and as the whole of the apartments are entirely subterraneous. On the 13th of February, M. Caviglia's passage had only arrived at the length of six feet,[2] notwithstanding the apparent satisfaction with which he mentioned, in his letter of the 17th of January, the progress he had made, and that he was within sixty feet of the centre of the pyramid. As I afterwards carried on this work to the centre, and sunk shafts to the foundation, without finding any passage or apartment, it is clear that I received from M. Caviglia no more assistance in the discoveries made at this pyramid, than in other instances.[3]

As *I did* not inquire, I cannot state by whom M. Caviglia was informed of the two upper shafts, where he was so long and so unsuccessfully employed in searching for mummies. He most probably heard of them from the Arabs, who, before the Pasha's prohibition, were constantly employed in excavating either for

[2] See Mr. Perring's admeasurements.

[3] Mr. Belzoni appears to have made a better guess than any other person as to the position of the entrance into the Third Pyramid, by supposing that it was concealed by the blocks of granite that formed the base; the removal of which, he says, would evidently have brought him to the entrance of the pyramid, but that it required more money and time than he could spare.

themselves or for other people. But Abd El Ardi assured me, that he pointed out Campbell's Tomb to M. Caviglia, having formerly found it too large to work on his own account. In fact, it is evident to any person acquainted with the place, that the discovery of these and of similar constructions can only be effected by partially removing the sand, and can never be the result of study and reflection.

So much for M. Caviglia's discoveries. And as for his operations at Campbell's Tomb, it is only necessary to say that he intended to open the several parts successively, in order to save expense—a process by which it would have been impossible to have surveyed and taken plans of this extraordinary edifice; and which could have led to no other beneficial result, than the paltry acquisition of a few common antiquities: nor is it easy to imagine the time in which even this imperfect operation would have been effected, and the sand taken out from so great a depth by the common Arab baskets, which were the only means he employed; since, even with the help of machinery and of additional numbers (allowing for the few days' intermission mentioned in my Journal), the place was not finally cleared until the 29th of June.

Having now clearly shewn that I never received from M. Caviglia the slightest useful information, or assistance (which indeed was not in his power to afford), but that on the contrary I had much reason to complain of the ill-judged and feeble manner, in which he attempted, most unsuccessfully, to carry on the intentions of the firmaun, and particularly also of the time and labour which he wasted on other trifling objects, I have now most distinctly and indignantly to deny, that any determination existed between Colonel Campbell and myself "to dispense with his services, and to profit in concert by the results of his previous studies and researches," which, it is falsely stated, he "so freely imparted;"—an imputation which can only affect the character of the persons who have so vainly endeavoured to cast it on Colonel Campbell and myself. M. Caviglia's dismissal on the 12th of February, was the consequence of his own unwarrantable conduct.

The details, which I have thought it necessary to draw up respecting the recent discoveries at the Pyramids, will sufficiently prove that I entertain no silly vanity respecting them, but that on the other hand I have endeavoured to give full credit to those gentlemen, by whose skill and perseverance I have been so materially assisted; and I here beg to assure M. Caviglia how much I

regret that it is not in my power to make similar acknowledgments to him. The tenour of my answer to his application, made through Mr. Galloway, on the 7th of March, to be allowed to return to the Pyramids, will shew that I never entertained the slightest hostility towards him, although it was evidently impossible to accede to his request. I could also, were it necessary, appeal to Mr. Wilkinson's testimony, that I sedulously avoided any allusions to these unpleasant transactions, beyond what were necessary to make intelligible the operations afterwards so successfully carried on at Gizeh: nor should I have now entered into so long and disagreeable a detail, had it not been for the groundless and foul accusations publicly preferred, in M. Caviglia's name, against Colonel Campbell and myself.

(TRADUZIONE.)

GIACCHÈ il nostro caro uffiziale stimatissimo Colonello Campbell, Console-Generale del Re d' Inghilterra, ci fece sapere che è la sua volontà di scavare una delle Piramide; che si trova nel Ghizé con tutti i suoi appartenenti, e scoprire le antichità che ne sono nascoste; le quale sono attorno nelle sue vicinanze, questo fu colla conoscenza del Signore Caviglia; ed anche la spese sara pagata dal medesimo; chiedendo da noi un firmano, per adjutarlo in cio': e secondo la sua dimanda scrivemmo questo ordine a tutti i direttori e comandanti, e Governatori in Generale, che sono in quella direzione; di non impedire il Signore Caviglia sopradetto di quello, che è soprascritto, ansi d' ajutarlo in tutto ciò, che ne avra bisogno, e d' essere ubbidienti a questo nostro comando, e di guardarsi bene di non trasgredirlo.

(Sigillato) MEHEMED ALI.

Cairo, di (*Moharem*) *Aprile* 1252.

Alexandria, August 16*th*, 1837.

MY DEAR COLONEL VYSE,—I inclose to you, at your request, the copy and translation of the firmaun granted by Mahomet Ali for excavating in the Pyramids of Gizeh and in their neighbourhood.

You will perceive that the firman is in the name of Mr. Caviglia, and it is therefore incumbent on me to explain the reason of its being so.

When I first applied to the Pacha for the firman, I requested that it should be made out in your name and in my own jointly.

The firman was accordingly made out in our names, and addressed to the Moudir, Governor of the district of Ghize.

I sent my dragoman with the firman to the Moudir, in order that he (the Moudir) should give the necessary instructions to the Sheiks of the villages in the neighbourhood of the Pyramids, to afford all the aid of workmen, &c. requisite to carry on the excavations and operations which you contemplated.

On the receipt of the firman by the Moudir, that person gave the necessary orders to the Sheiks in writing, but added that they were to keep strict watch that nothing found there should be carried off by you or me. I was, as you may suppose, much annoyed by this improper remark of the Moudir, and went at eight o'clock on the same night to complain to the Pacha of this circumstance.

The Pacha appeared to feel the circumstance even more than I did myself, and in my presence gave orders to deprive the Moudir of his employment; and then asked me if it would not facilitate the object in view if the firman should be made out in the name of the person employed by us to carry on the excavations, and then that person could give his orders direct to the Sheiks, without any interference on the part of the Moudir, or any reference to him.

I agreed with the Pacha in this view, and the firman was accordingly made out in the name of M. Caviglia, the person employed by us; but had you or I desired it, it would equally have been made out in the name of any other person you might have designated. You will perceive, by this plain statement, the reasons and the object of the firman being issued in the name of M. Caviglia.

I have only now to felicitate you, &c.[4]

Believe me to be, with great regard,

My dear Colonel Vyse,

Yours most truly,

PATRICK CAMPBELL.

[4] The part of this letter here omitted is merely complimentary.

Scoperte Fatte in Egitto, dal Capitan Caviglia, *nel* 1820 *e* 1836.

Il Capitan Caviglia è bastantemente conosciuto per le scoperte che fece nel 1817, nell' interno della Gran Pyramide di Giseh, per quella di un tempio fra le zampe del' Andro-Sfinge, e per altre in diversi Monumenti Egiziani.

Persuaso egli che nell' interno della Gran Piramide potessero existere altri appartamenti, oltre quelli già conosciuti rinnovò i suoi tentativi nel 1820, e cominciò dall' introdurre una quantita di bastoni fino a circa 120 piedi, entro le due aperture nord, e sud della Camera del Re: mancando però d' istrumenti atti a travagliare sul granito, di cui è formata la camera, non potette riuscire ad ingrandire dette due aperture; ma assistito da quella costanza che gli è tutta propria, immaginò di aprire un nuovo sentiero nella pietra calcarea aderente al granito, che è alla diritta dell' entrata della camera, ad oggetto di scuoprire il piccolo buco d' alla parte del nord: aperto così il passagio per 15 piedi, rinvenne il buco con la direzione nella massa calcarea verso l' owest, in un angolo ascendente di 27°.

Felice di questa scoperta volle tentare l' apertura del lato sud, della Camera del Sarcofago; ma ogni sforzo, quantunque continuato in direzioni diverse, sopra uno spazio di 20 piedi fra la pietra calcarea all' angolo sud-est della Camera di Davison, rimase inefficace, ed infruttuoso.

Nel 1817 Caviglia aveva scoperto le parti nord ed est dell' Andro-Sfinge, nel 1820 ebbe la sodisfazione di scuoprirne il lato dell' owest, e trovò che questo monumento siede sopra piedestallo circondato da un fosso scavato nella rocca, fosso che molto probabilmente aveva servito a far circolare dell' acqua proveniente dal canale indicato per il ponte che è situato in mezzo del cammino situato al sud-est degli Alberi della Vallata.

In un vallone, 5 miglia distante nord-est dalla Gran Piramide, scuoprì diverse abitazioni, delle tombe, ed una gran cisterna, il tutto scavato nella rocca, e senza la minima traccia di geroglifici; dal che formò opinione che tal luogo dovesse essere stato-abitato da popolo assai antico, di cui ignoravasi il nome.

Nel medesimo vallone osservò pure un cammino che conduceva ad una collina; sulla quale riconobbe gli avanzi di una

piramide, di circa 300 piedi di base, circondata da altra piccole Piramidi di Granito, che il tempo aveva quasi interamente polverizzato, e fu indotto a supporre che tali edifizi fossero di gran lunga più vecchi di quelli di Gizeh, ove il granito, come la piccola piramide sono ancora in buonissimo stato.

Nell' anno 1821, dovette sospendere il lavoro intorno a questi monumenti, per occuparsi delle rovine di Memphi, che fruttarongli la scoperta del Colosso del Gran Sesostri, la di cui bellezza è nota in Europa.

Nel 1836, avendo riassunto nuove indagini nell' interno della Gran Piramide, e sempre all' intento di scoprire delle nuove camere ; e la di lui attenzione essendosi estesa anco agli altri monumenti, riconobbe nella Seconda Piramide, ove si riuniscon i due passaggi per andare alla camera scoperta da Belzoni, un terzo passaggio che comunicando col mezzo di un piccolo Pozzo coi due altri, diviene molto interessante per la scienza.

Esaminata la natura dei travagli che occorrevano, il Cap. Caviglia si determinò ad aprire una strada esterna alla base, ed alla distanza di 43 piedi da essa rinvenne che tanto il suolo della rocca, quanto uno scalino scoperto a 11 piedi più vicino all' entrata, erano smaltati di rosso. E, siccome sulle pietre cadute dalla facciata del monumento questo smalto è della stessa natura, di quello che fù da lui rinvenuto, concepì l' idea che tutta la Piramide fosse stata smaltata di rosso a 43 piedi dalla base.

Molti avevano tentato di aprire la Terza Piramide, egli si è accinto pure a tale impresa, ed ha cominciato ad aprire ad una certa altezza un passaggio dal lato nord, non senza speranza di penetrare più facilmente in qualche appartamento, che tentandolo dalla base.

Egli annunzia la difficoltà, e la lentezza dei lavori nella Gran Piramide ; ciò non ostante è riuscito di fare una apertura al di sopra della apertura della Camera di Davison, e crede in breve di penetrare superiormente al soffito della medesima.

Il Cap. Caviglia infine hà scoperto all' owest-nord-owest, e a 300 piedi dall' Andro-Sfinge, una gran tomba, circondata da un fosso lungo piedi 68, largo piedi 6, e profondo già piedi 60.

La costruzione del medesimo è tanto particolarmente scavata nella rocca, che dà luogo di pervenire ai più grandi resultati.

In questo momento il Cap. Caviglia hà sospeso ogni lavoro; è però sul punto di riprenderli, e di continuare senza interruzione, per poi essere in grado di communicare al pubblico il frutto delle sue onorevoli fatiche.

A Brief Account of the Discoveries made in Egypt, between the years 1820 *and* 1836, *by* T. B. Caviglia.

TO THE EDITOR OF TAIT'S MAGAZINE.

The following, being translations of letters which have been sent to me for publication, by M. Caviglia, you will probably think worthy of an early insertion in your magazine. The facts alleged in these letters, rest for proof entirely upon the authority and veracity of the writer; and you will, therefore, probably deem it due to justice, and to the characters of Colonel Vyse and Colonel Campbell, to proffer the use of your pages to those gentlemen, for an explanation of the part they have taken in the interesting transactions referred to. For your justification, and the satisfaction of your readers, however, I can state, in corroboration of the principal incidents alluded to, that, having myself visited Egypt in the course of a tour in the East, during portions of the last and present year, and having paid several visits to the Pyramids, I there made the acquaintance of M. Caviglia, who was, at the time, engaged in superintending the labours of a party of workmen, who were paid by Colonel Campbell, Colonel Vyse, Mr. Sloane, and himself, jointly, as described in the following letters. I spent the month of January in Cairo and the neighbourhood, and frequently met and conversed with M. Caviglia upon the subject of his views and projects; but I found that, both towards myself and others, who took an interest in his scientific labours, he maintained a prudent reserve respecting the discoveries he expected to make, and the operations by which he hoped to effect them. I mention this to shew that, if he imparted his secrets to Colonel Vyse, it must have been in a spirit of confidence, springing from the intimate alliance they had entered into. How far that confidence has been abused, must be determined by other testimony than mine, as I have no means of judging of the circumstances of the case, excepting such as are given in M. Caviglia's own letters below.

One word as to the names with which the chamber discovered by Caviglia is to be christened; for it seems that rival godfathers are disputing over the subject. It appears, that whilst the discoverer of the chamber in question would give it the title of

O'Connell, Colonel Vyse, with an *esprit de corps*, not a little natural, assigns to it the name of Wellington. Neither name is, in my opinion, well chosen; for the Liberator of Ireland, a fame more imperishable than even the Pyramids themselves, has already been secured at the hands of the historian; whilst the hero of Waterloo, if he be not remembered in the bridges, streets, and boots, which are named after him, will for ever be preserved in our memory by those annual instalments, which, in the form of taxation, are levied in payment for his glory. In my opinion, the apartment should be named after its discoverer, Caviglia, as both the most proper and most euphonious title. Colonel Campbell, whose name has been given to one of these discoveries, has no right to identify himself in any way with the triumph of antiquarian science; not having, since his residence in Egypt, as British consul, until the present questionable instance, lent the slightest assistance to the cause of such researches. I would recommend to his notice and imitation the very opposite conduct of his worthy predecessor, Mr. Salt, who, whilst he patronized the exertions of such enterprising individuals as Belzoni and others, left them in the undisputed possession of all the honour which justly accrued from their meritorious labours. I venture, then, to give to the lately-discovered apartment the name of the "Caviglia Chamber," in justice to the fame of an amiable and enthusiastic devotee at the shrine of antiquarian learning—in justice to one who has sacrificed country, home, friends, and fortune, for the indulgence of the refined though eccentric taste of exploring the hidden mysteries of the Pyramids and Tombs of Egypt.

R. C.

Manchester, 20th Aug. 1837.

Captain Caviglia, already known by the discoveries which he made in 1817, in the interior of the Great Pyramid, by the discovery of the temple situated betwixt the fore-feet of the Andro-Sphinx, as well as by other labours crowned with similar success, begs to submit to the notice of the scientific world the results of his subsequent exertions in the same great field of antiquarian learning.

In 1820, upon revisiting the Great Pyramid, he was induced to try an experiment, by pushing into the two small apertures,

which are on the north and south side of the "King's Chamber," a great number of palm branches, tied together, to the length of about 120 feet; and which led him to the opinion that there were other apartments in the interior of this monument. But, having failed in the attempt to enlarge these small openings, owing to the want of proper implements for working the granite with which the chamber is lined, he determined to pierce another passage in the calcareous stone, of which the body of the pyramid is formed, beginning at the right-hand side of the entrance to the chamber, in the hope of striking upon the above small passage in the calcareous mass to the north.

Having excavated to the distance of about fifteen feet, the above-named small aperture—the course of which tended at an angle of about 271° to the westward—was encountered: and afterwards the labours of the workmen were diligently continued in the same direction.

But, with a view to come upon the track of the other hole, which opens into the south side of the King's Chamber, Captain Caviglia caused another passage to be opened in the calcareous stone to the south of the "Davison Chamber;" and having penetrated about twenty feet, without finding the object of his search, he gave orders to the workmen to continue their labours in another direction.

After much labour, in 1817, Caviglia exposed to view the north and east sides of the Andro-Sphinx, which, together with the base, he discovered, to be so delicately coated with a reddish coloured composition, that it left him in doubt whether the covering had originally been of plaster, or paint. In 1820, he, moreover, discovered the west side of this monument, which he now found to be placed upon a pedestal, likewise plastered or painted, and surrounded by a ditch cut in the rock, intended probably for the circulation of water, which was supplied from a canal in the neighbourhood, as indicated by a bridge in the embankment, to the south-east of the trees in the valley.

Whilst engaged in superintending the above works, Captain Caviglia discovered, in a valley five miles to the north-west of the Great Pyramid, several houses and tombs, together with a large cistern, the whole cut from the solid rock, and presenting no traces of hieroglyphics; which latter circumstance has given rise to the opinion, that this valley was peopled by an ancient race, of whose name and history we are totally ignorant. In the same valley, Caviglia having observed the traces of a road, which con-

ducted him to the summit of a small hill, he there laid open to view the base of a pyramid, of about 300 feet square, surrounded by small pyramids of granite, which had nearly crumbled to dust beneath the hand of time. There is little doubt but these monuments had a much earlier origin than the Pyramids of Gizeh—the granite that covers the smallest of which is still in a tolerable state of preservation. Having suspended his labours in the neighbourhood of the Great Pyramids, he went, in 1821, to the vicinity of Memphis, where his labours were that year rewarded by the discovery of the colossal statue of the great Sesostris, the magnitude and beauty of which are known throughout the scientific world.

In 1836, Captain Caviglia resumed his labours at the Great Pyramids, with the hope of finding some additional chambers. He discovered in the second of these monuments, at the point where the passages of the two entries unite to conduct to the chamber discovered by Belzoni in the centre, a third passage, which, in the circumstance of its communicating with the other entries of Belzoni, by means of a small well, presents a feature of interest to the scientific student of the principles of Egyptian architecture. After considering as to the best mode of prosecuting further investigations in the interior of the above pyramid, it was determined to open its exterior entry, situated at the base; when it was found, at the distance of forty-three feet from this entrance, that the rocky foundation had been plastered or painted red, in the same manner as the Andro-Sphinx; and a similar circumstance was observed with reference to a step, situated at eleven feet nearer the sought-for entrance. As this red plaster or paint is of the same kind as that which is found upon the stones which have crumbled from the faces of the pyramids, there is reason to conclude that the whole of the exterior surface of those monuments, as well as the principal part of their foundations, was painted or plastered red. Another incident tends to confirm this supposition: having picked up, at the eastern base of the Great Pyramid, a stone covered with a coat of red paint, which he accidentally shewed to an English traveller, Mr. H. B. Agnew; that gentleman produced a stone of the same kind, covered also with a red paint or plaster, which he had found on the west side of the same monument. From that time there was no longer reason to doubt that the two Great Pyramids, as well as the Andro-Sphinx, had been originally covered with a surface of

plaster—in colour, very much resembling the red granite with which the Third Pyramid only was cased.

The unsuccessful attempts which have been made by a variety of persons to open the smallest of the three great Pyramids, induced Caviglia to make an experiment, by piercing another passage at a certain height on the north side, in the hope of being able to penetrate more easily the interior, than by searching for an entrance at the base. As the works before referred to in the interior of the Great Pyramid proceeded necessarily very slowly, it was determined, without interrupting them, to commence an opening above that of the entrance to Davison's Chamber; and it is hoped, that, in a short time, it will be found practicable to penetrate above the ceiling of that chamber.

Besides the above labours, Caviglia has discovered, at a distance of 300 feet to the west-north-west of the Andro-Sphinx, a large tomb, surrounded with a ditch sixty-eight feet long and six wide, and already excavated to the depth of about fifty feet, cut out of the solid rock, and altogether of a style of construction so peculiar as to warrant the hope that it may lead to still more interesting results.

Captain Caviglia has found it necessary to suspend his labours; but he hopes soon to be able to resume them, and to continue his operations without further interruption; and he will deem it his duty to announce his further progress to the scientific world, of which he has the honour to regard himself as the devoted and obliged servant.

T. B. CAVIGLIA.

Alexandria, 2d April, 1837.

Letter from T. B. CAVIGLIA, *addressed to* COLONEL CAMPBELL, *Consul-General and Agent of his Britannic Majesty in Egypt and its Dependencies.*

SIR,—In the brief account which I have published to the scientific world, of my discoveries in the Pyramids of Gizeh and their environs, I stated—1. "That I had commenced an opening above that of the entrance to Davison's Chamber, and that I

hoped soon to be able to penetrate above the ceiling of that chamber. 2. That I had discovered, at a distance of 300 feet to the west-north-west of the Andro-Sphinx, a large tomb, surrounded with a ditch sixty-eight feet long and six wide, and already excavated to the depth of about fifty feet, cut out of the solid rock, and of a construction so peculiar as to lead to the hope of still more important results."

At the moment when these hopes have been realised, and these results obtained by Colonel Vyse, it becomes my duty to make known to the public why I have been compelled to suspend my labours, and how I have been superseded as director by that gentleman. Justice requires that we should render unto every one according to his works.

When, in the month of November last, in conjunction with Colonel Vyse, and Mr. Charles Sloane, your vice-consul at Alexandria, you made me an offer, that, if I would again take upon myself to direct the works at the Pyramids of Gizeh and the neighbourhood, you would furnish me with the funds and the firmaun necessary to the undertaking; and that, as a recompense for my services, I should receive a fourth part of such antiquities as I might discover; I accepted the proposal, begging you at the same time to be good enough to offer to the disposal of the British Museum my share of our future discoveries. It was thus that I disposed of the antiquities which I found in the year 1817.

In fulfilment of the above arrangement, having received 40*l.* from each of my three associates, and being provided with a firmaun from the Pasha in my own name, I forthwith commenced my labours. A short time afterwards you paid me a visit, accompanied by Colonel Vyse, when you were so fully satisfied with an inspection of the works, that you gave orders to your vice-consul at Cairo to furnish me with additional funds for the further prosecution of the undertaking. Soon afterwards, however, Colonel Vyse came and took up his residence at the Pyramids with me. Regarding him in the relation of a partner, I felt no hesitation in confiding to him my views and ideas as to the direction of our works; and I explained to him in all the security of the most perfect confidence, the minutest details of my plans. Of course, I did not allow the unworthy suspicion to enter my mind, that he would profit by my frankness, in a manner so unbecoming his rank, as to supplant me in the capacity of director of the works.

On the 10th of February last, I was superintending the labour

of one hundred and fifty workpeople at different points, when Colonel Vyse, without assigning any other reason than his own humour, proposed to employ at his expense, and on his own account, three hundred additional labourers. It became my duty to sustain the rights of the partnership, and I explained to him that one individual had not the right to embark in such an undertaking on his own account, without the previous consent of all the members of the association; and besides, that, being the holder of the government firmaun in my own name, and having been the first to discover the unexplored passage in which we were still prosecuting our labours, I could not consent that he should take upon himself to act thus despotically, to the injury of the rights of the partnership, and to the detriment of my own individual reputation. Having, in consequence of that which had passed between Colonel Vyse and myself, paid you a visit at Cairo, to apprise you of the proceedings of that gentleman, I was a good deal hurt at finding a character of indecision in your observations on the subject; but the letter you did me the honour to transmit me two days afterwards, a copy of which is given below, cleared up my doubts as to your intentions; and I now perceive, that it was determined by Colonel Vyse and yourself to dispense with my services, and to profit in concert by the results of my previous studies and researches in these monuments, which I had so freely imparted to you. Nevertheless, I obeyed your orders, and returned to you the firmaun which had been granted to me by the Egyptian government. But let it not be imagined that, in doing so, I acted from ignorance of my own rights or duties; I was influenced entirely by a prudent sense of the deference and respect which are due to power, especially in a foreign land.

But, further, when Colonel Vyse affected to solicit your permission to continue the works in the large tomb which I had discovered, I stated, in reply to the letter which you did me the favour to send me on the subject, that not only were the parties interested at liberty to proceed with the works in that tomb, but also to pursue further discoveries in all those other monuments which I had brought to light in the years 1817, 1820, 1821, 1836, and 1837; thus preferring the progress of scientific discovery to my own private resentment. This correspondence, however, which took place after my return to Alexandria, offers no palliation for the injustice previously exercised towards me.

Subsequently, in a conversation with you at Cairo, I requested your consent to be allowed to form another association, for the

purpose of continuing my labours, but which you formally refused: intimating, as a reason, that not having, like Colonel Vyse, the command of great pecuniary resources, I was not in a condition, like him, to prosecute such expensive undertakings. Thus, then, because Colonel Vyse is a richer man than myself, he has been allowed to commit an act of injustice—to despoil me, probably, of the fruits of a life of study and labour, and to trample under foot those courtesies of society which are reciprocally due from one individual to another. I addressed a similar request to you in writing, to which you replied, verbally, through your vice-consul at Alexandria, that the firmaun, though made out in my name, was specially intended for you and Colonel Vyse; which leaves no room to doubt the deplorable fact of a special understanding having been *entered into* to my prejudice.

I am then forced to conclude, that, to *favour* Colonel Vyse, a great abuse of authority has been committed against myself; and I am bound to add, that a just sense of what is due to my character, will compel *me to submit to* the tribunals of public opinion the above statement of facts; and to demand, at the hands of the scientific world, an award of the fame due for the discoveries which have just been made, and which were only seized upon by others at the very moment when, after years of labour and study, I was about to realize *them*, in the capacity of proprietor of these discoveries, seeing that the author has alone the right to name his own works. I have, moreover, to announce to you, that I have given to the chamber in the Great Pyramid, situated above that of Davison, the name of the O'Connell Chamber, which will serve as a memorial of the *toils* he has endured for the cause of the people,—as, in fact, this monument itself does of the sufferings of the oppressed people whose hands erected it.

I have the honour to be, &c.

(Signed) T. B. CAVIGLIA.

Alexandria, 21*st April*, 1837.

N.B. Since forwarding the above letter to Colonel Campbell, I have learned that Colonel Vyse has given the names of Wellington and Campbell to the two discoveries above referred to; and I understand that he is following up successfully other works, according to the plan traced out in my account, published in the journal of Malta of the 22d March.

(Copy.)

Cairo, 12th February, 1837.

My dear Mr. Caviglia,—As I find that the affair of the Pyramids gives me nothing but trouble and annoyance, I have determined, though with much regret, to withdraw altogether from the undertaking.

It therefore becomes necessary that you should consider our labours as finished, and you will be pleased to send me the firman, and the translation, as it at present belongs by right to Colonel Vyse, with whom the sheiks of the villages will henceforth concert their operations. You will also be pleased to pay the government cavass, and dismiss him.

It now only remains for me to assure you how sensible I feel of the zeal you have manifested in our undertaking; and that it is with the utmost regret that I find myself compelled by circumstances to decline your co-operation, as well as the pleasure which I had promised myself, from the prosecution of the works at the Pyramids.

I beg you to believe that I remain, &c.

(Signed) PAT. CAMPBELL.

PRICES PAID IN EGYPT.

The following prices were paid in Egypt in 1836 and 1837. It may be seen, by comparing them with those published by Mr. Wilkinson, in 1835, that articles of consumption have greatly risen in value since that account was drawn up. Upon many of them, furnished by Mr. Hill, it may, however, be naturally concluded that a profit was charged.

	Piastres.	Piastr.	Paras.		Piastr.	Paras.
Bread, per oka					3	0
Flour, per oka (Mr. Hill)	4				3	10
Beef, per oka, from		2	4	to	3	20
A calf, from		72	0	..	171	0
A sheep, from		20	0	..	40	0
Mutton, per oka					2	0
A lamb, from		18	0	..	30	0
A pig					4	0
A turkey, from		12	0	..	18	0
A goose, from		4	0	..	6	20
A duck, from		1	20	..	2	10
Fowls and chickens, from		0	30	..	3	20
Pigeons					0	30
Butter, per rotolo					1	5
Butter per oka, from		2	10	..	3	10
Cheese, per oka					6	0
A Dutch cheese (Mr. Hill)					15	0
Eggs, 40 about					1	0
Potatoes, per oka (Mr. Hill)		2	0	..	1	10
Beans, per ardep (Mr. Hill)					68	0
Macaroni, per oka					3	30
Rice, per oka (Mr. Hill)					3	0
Bottle of pickles					5	0
Bottle of vinegar					5	0
Salt, a basket of					5	0
Black tea, 1 lb.					30	0
Green tea, 1 lb.					45	0
Coffee, per rotolo, from		5	0	..	6	0
Sugar, per oka (Mr. Hill)					7	0
Oranges, per dozen (Mr. Hill)					1	0
Lemons, per dozen (Mr. Hill)					0	21
Figs, per oka					3	0

	Piastres.	Piastr. Paras.	Piastr. Paras.
Raisins, per oka, from	-	5 0 to	6 0
Almonds, per oka	- -		7 0
Apricots, per rotolo	- -		2 0
Wine, common, per oka (Mr. Hill)	-		5 0
— French, per oka	-		15 0
— Marsala, per bottle (Mr. Hill)	-		16 0
Rum, per bottle (Mr. Hill)	-		10 0
Brandy, per bottle (Mr. Hill)	-		14 0
Wine, sherry, per bottle (Mr. Hill)			25 0
— port, per bottle (Mr. Hill)	-		25 0
Porter, per bottle (Mr. Hill)	-		7 0
Ale (Mr. Hill) - -	-		7 0
Tobacco, per oka (Mr. Hill)	-		16 0
Coals, per cantar	- -		25 10½
Charcoal, a mat, from	-	12 0 ..	21 0
Wax candles, per oka (Mr. Hill)	30 and 42	28 0 ..	38 10
Lamp oil, per rotolo (Mr. Hill)	8		7 20
Soap, a rotolo (Mr. Hill)	4	an oka ..	7 0
English gunpowder, 1lb. -	-		20 0
Egyptian, 100lbs. -	-		387 0
A pair of saddle-bags	- -		10 0
A bed - -	-		2 30
Stone jar - -	-		2 20
A pair of caffas for a camel	-		40 20
White Arab dress, for a woman	-		12 0
Black Arab dress, for a woman	-		33 0
Pair of bracelets	- -		2 0

MONEY.

The value of money was, in 1837, as follows:—40 paras, 1 piastre; 5 piastres, 1 shilling. A dollar was worth about 21 piastres and 20 paras.

The coins chiefly consisted of 3, 4, 9, 10, and 20 piastre pieces.

WEIGHTS.

According to Mr. Wilkinson, there are 2¾ rotoli in an oka, 110 rotoli in a cantar, which measures differ in some degree when applied to different commodities.

There appear to be 5 okas in a roob, and 24 roobs in an ardep.

TRANSLATIONS AND ABSTRACTS

FROM

VARIOUS AUTHORS.

When I undertook the publication of these volumes, and of the explanations and remarks which were necessary for the larger work, I was naturally desirous of knowing the opinions which had been previously entertained respecting the Pyramids, and of making myself acquainted with the examinations and discoveries which had already taken place. The results of my inquiries were the following translations and abstracts. For the accuracy of the former, so far at least as regards the antient authors, I need only mention, that they have been examined by the Reverend Edward Coleridge, of Eton College. The Arabic authorities have been translated by Dr. Sprenger, and I have endeavoured to arrange them chronologically; a task which has been attended with some difficulty, as many of them are only known by quotations in the works of posterior writers. In all the other passages I have endeavoured to give the exact meaning of the authors, and whatever mistakes may be found in them, they are, at all events, not intentional misrepresentations.[1]

The extreme antiquity of these remarkable monuments is evident from the uncertainty that attends their origin, and, also, from the fabulous accounts given of them by Eastern writers; in which ignorance and superstition have so completely disguised tradition and facts, that it is scarcely possible to ascertain the foundations upon which they rest. The grandeur, peculiar situation, and mysterious construction of the Pyramids, seem likewise, in many instances, to have had considerable effect upon the imaginations of later travellers. By whom they were first violated will never, probably, be ascertained; but the caliph, El Mamoon, seems to

[1] Many other authors who have written about Egypt have been consulted, but they contain no information on the subject in question.

have explored the most of them. Few travellers have had either leisure or opportunity to examine them minutely, for the hostility of the Arabs appears to have been always formidable, and considerable labour and time were necessary to obtain any satisfactory results. Mr. Davison, in 1763, examined the chamber which bears his name, of the existence of which he seems to have been informed by M. Maynard, a French merchant. He also examined the passage leading to the subterraneous apartment, to the extent of 131 feet. The French do not appear to have made any discoveries commensurate in importance with the advantages which they enjoyed. The power of Mahomet Ali gave complete security from the Arabs, and afforded opportunities, likewise, of obtaining labourers; and in consequence, a most important discovery was effected by M. Caviglia in 1817, when, by clearing out the inclined passage, he solved the mystery respecting the well in the Great Pyramid, which had given rise to so many conjectures. It is to be remarked also, that, at the same time, M. Belzoni discovered the entrance of the Second Pyramid; and it appears he would also have entered the third, had he continued his operations.

It is surprising that these buildings seem not to have attracted the attention of Alexander the Great; nor, as it has been often remarked, does Homer mention them: but the poet is equally silent respecting Mount Etna. It is probable that he never heard of either of these stupendous productions of art and of nature, and that he never visited the interior of Egypt, or the countries to the westward of Italy; and, as it is supposed that he derived his knowledge of Egyptian matters from the priesthood, his silence respecting the Pyramids supports, in some degree, the tradition, mentioned by Herodotus, and by other antient authors, that they were the works of a powerful race, whose memory was accursed and hated.

The progress that has been made in the study of hieroglyphics has greatly confirmed the historical events mentioned in the Scriptures. I have already alluded to the remarkable connexion of the name of Philition with the Philistines of Palestine, who, according to Manetho, after their expulsion from Egypt, laid the foundation of Jerusalem (as has been conjectured by Whiston), thirty-seven years before the calling of Abraham from Haran. It has also been assumed (in my opinion, satisfactorily), by Bryant,[2] that these mighty shepherds were the descendants of Ham, expelled, on

[2] See Bryant's "Ancient History, and Ancient Mythology."

account of apostasy and rebellion, from Babel, from Egypt, and from Palestine; and who afterwards, under the name of Cyclopes, Pelasgi, Phœnices, &c., were pursued by Divine vengeance, and successively driven from every settled habitation—from Greece,[3] from Tyre, and from Carthage, even to the distant regions of America, where traces of their buildings, and, it has been supposed, of their costume, as represented in Egyptian sculpture, have been discovered. These tribes seem formerly to have been living instances of Divine retribution, as the dispersed Jews are at present. They appear to have been at last entirely destroyed; but their wanderings and misfortunes have been recorded by the ever-living genius of the two greatest poets in the Greek and Latin languages; and the Pyramids remain enduring yet silent monuments of the matchless grandeur of this extraordinary people, of the certainty of Divine justice, and of the truth of revelation.

HERODOTUS.—445 B. C.

BOOK II.

SECT. 124.—Now they (the priests) told me, that Egypt had enjoyed an excellent constitution and government, and a great state of prosperity, up to the time of King Rhampsinitus. His successor was Cheops, who reduced them to utter misery; for he closed all the temples, and debarred them from sacrifice. He next enjoined all the Egyptians to labour for him: on some he imposed the task of drawing stones, from the quarries in the Arabian mountains, to the Nile; others were charged to receive the stones when transported over the river, and to draw them to the so-called Libyan mountains. They worked in bodies of a hundred thousand men, relieved every three months. The period of the oppression of the people was ten years for the construction of the causeway, along which they drew the stones—a work in my opinion not much inferior to the Pyramid; for it is three thousand feet long, sixty feet wide, and in its loftiest part forty-eight feet high. It is of polished stones, with intaglios of animals. Ten years

[3] See Sir W. Gell's "Rome and its Vicinity," vol. ii. p. 148, where he mentions their expulsion from Athens, and also that by Euripides they were styled, "Sons of Ægyptus."

then were spent on this, and on the subterraneous chambers in the hill on which the Pyramid stands, which he constructed for his own vaults in an island made by introducing a canal from the Nile. But twenty years were expended on the construction of the Pyramid itself, which is square, each side being of eight hundred feet, and of equal altitude. It is of polished and most accurately jointed stones, no single stone being less than thirty feet. This Pyramid was constructed in the manner of steps, by some called parapets (krossai); by others, little altars;[4] such being its original construction, they raised the remaining stones with machines, made of short pieces of wood, from the ground to the first layer of steps, and when the stone was let down on this, it rested on a second machine standing on the first layer; from this it was drawn to the second layer, where another machine lay to receive it — for there were just so many machines as layers of steps; or perhaps, they transferred the same single portable machine to each layer on removing the stone. We choose to mention both accounts as they were related to us. Thus, the upper part of the Pyramid was first finished off,[5] then the next part, and last of all the lower ground part. Now, the sum that was spent on radishes, onions, and garlic, for the workmen, is marked in Egyptian characters on the Pyramid; and, as I well remember what the interpreter, as he read over the writing, said to me, it made up a sum of sixteen hundred silver talents. If these things be so, how much besides may we calculate was spent on the iron with which they worked, and on bread and clothes for the workmen, as they were occupied the above-mentioned time in constructing these works, and no little time besides, as I conceive, in cutting and carrying the stones, and making the subterraneous excavation? Cheops, they continued, descended so low, that for want of money he placed his own daughter in a chamber, and charged her to get a certain sum of money, which they did not specify. She not only obtained the sum appointed by her father, but on her own account was minded to leave a memorial behind her, and asked each of her visitors to give her one stone for the works. Of these stones, they said, the

[4] These steps have been already alluded to: they were probably progressive stages, diminishing towards the top like those in the Fourth and Sixth Pyramids, as the several tiers of stones could not have been of sufficient width to support machines of any power. The Third Pyramid appears to have been built in this manner, and the superficies to have been afterwards filled up into one continuous line.

[5] This finishing from the top applies solely to the trimming off and smoothing the surface of the casing-stones, which had been roughly cut to the proper angle.

Pyramid was built which stands in the middle of the three before the Great Pyramid ;[6] each side of which is a hundred and fifty-feet.[7] The Egyptians said, that this Cheops reigned fifty years, and was succeeded at his death by his brother, Cephren, who pursued in all respects the same course as he had done, and built a Pyramid, which, however, does not reach the measure of that of Cheops (for these measures we ourselves took), since it wants subterraneous chambers; nor is there any canal flowing into it from the Nile as there is into the other, which passes through an artificial tunnel in the interior of the Pyramid, round an island, in which, they say, Cheops himself lies.[8] Cephren made the substructure of his building of variegated Ethiopian stone,[9] and built it adjoining the great one, leaving it forty feet inferior in size. They both stand on the same eminence, which is about one hundred feet high. They say Cephren reigned fifty-six years. These make up one hundred and six years, in which, according to their account, the Egyptians were reduced to extreme misery, and during all this time the temples were closed up. The Egyptians hated these (kings) so much, that they are very unwilling to name them, but call the Pyramids, the Pyramids of the shepherd Philition; he having fed his flocks in this spot about that time.[1]

Sect. 134.—He too (Mycerinus) left a pyramid, much less than that of his father—it is a square of two hundred and eighty feet, and, half-way up, of Ethiopian stone.[2] This indeed, other Grecians attribute, but incorrectly, to the courtesan Rhodopis. In saying this, they appear to me not even to know who Rhodopis was, or they would not have ascribed to her the making of so

[6] It is remarkable, that the casing-stones of this Pyramid resemble those of the Great in their workmanship, and in having been apparently finished down from the top.

[7] See measurations by Mr. Perring, for all the admeasurements in these abstracts.

[8] I have already referred to this remarkable account, which is so distinct that, although nothing has been discovered by the shaft which has been lately made in the subterraneous chamber down to the level of the Nile, it would appear, that a secret apartment exists; and the last chance of finding it would be to remove the sand and earth along the foot of the rocks, from the northern dyke to the Sphinx, as low as the level of the river, which must disclose any canal that might have been made.

[9] The lower tiers have been faced with granite.

[1] The shepherds are said, by Manetho, to have been driven out of Egypt into Palestine, and there to have built Jerusalem: they appear to have retained this name, Philistines.

[2] Key-stones of granite now remain in the lower part of the Pyramid.

great a pyramid ; on which, to speak summarily, more thousands of talents than can be numbered were spent. Besides, Rhodopis flourished not in the time of this man, but of King Amasis. She lived a vast number of years after the kings who left these pyramids.

Sect. 149.—Adjoining to the corner where the Labyrinth ends, is a pyramid of forty fathoms (square), on which are large animals in intaglio. The way to it is under ground. Yet great as is this Labyrinth, the lake called Mœris,[3] by the side of which it is built, presents a yet greater wonder. The circumference of this lake amounts to three thousand six hundred stadia, or sixty schœni—equal to the extent of sea coast in Egypt. The lake lies in length towards the north and south, being fifty fathoms deep in its deepest part. It offers internal evidence of being artificial. For, as near as may be, in the middle are two pyramids, each rising fifty fathoms above the water, and built to as great a depth under the water.[4] On each of them there is a stone colossal statue, sitting on a throne. Thus the Pyramids are of one hundred fathoms; and the one hundred fathoms make up a stade of six hundred feet —the fathom containing six feet and four cubits;[5] the foot containing four palms, and the cubit six.

DIODORUS SICULUS.

BOOK I.

Chap. 63. — Upon his death the crown was held, during seven generations, by kings devoted to idleness and luxury; which is the reason why the sacred records have handed down no magnificent work or remarkable action of theirs, save of Nileus, one of the number; from whom the river, before called Egyptus, took its name; for Nileus made many useful canals, and was greatly interested in rendering the Nile serviceable; whence it took this appellation. The eighth who became king was Chembes the

[3] This relates to the Lake Mœris.

[4] This passage respecting the buildings in the Lake Mœris, has been inserted, because they were of the same form, and, it is to be presumed therefore, of the same nature, as those at Ghizeh.

[5] The reader is referred to Bernard's work upon antient weights and measures; where it will be seen that there were several sorts of cubits—the black, the royal, &c.

Memphite, who reigned fifty years, and erected the greatest of the three Pyramids, which are reckoned amongst the Seven Wonders. These lie on the side of Libya—a hundred and twenty stadia from Memphis, and forty-five from the Nile: their magnitude, and the skill shewn in their execution, afford to spectators matter of the greatest astonishment. The largest is quadrangular; each side at its base is seven hundred feet long, and more than six hundred high; it gradually contracts to the top, where each side is six cubits; it is built entirely of solid stone, of a difficult workmanship, but eternal duration; for in the thousand years said to have elapsed since their construction, which some make more than three thousand four hundred, the stones have not moved from their original position, but the whole remains uninjured.. The stone is said to have been brought from a great distance in Arabia, and raised on mounds; for machines, in those days, had not been discovered. But the most wonderful thing in the construction of a work of such magnitude is this — the whole tract around is sand, yet no trace either of the mound or of the working of the stone is left,[6] so that the whole fabric appears to have been placed on the surrounding sand, not gradually, by the workmanship of man, but by the instantaneous agency of a Deity. Some Egyptians affect to tell wondrous tales about this, and pretend that the mounds were made of salt and nitre; the river was then let out upon them, melted them, and caused them entirely to disappear without manual labour. This is not the truth; but the same number of hands which raised the mounds, restored the whole work again to its previous state. For three hundred and sixty thousand men are said to have been occupied on the work, which was scarcely terminated in twenty years. This king on his death was succeeded by his brother Kephren, who reigned fifty-six years: some say it was not his brother, but his son Chabryis. But all agree, that, whoever succeeded, in emulation of the purpose of his predecessor, constructed the Second Pyramid, which resembles the First in its workmanship, but is much smaller—each side being at its base six hundred feet. An inscription on the greater one states, that the quantity of money spent on herbs and radishes for the workmen amounted to more than sixteen hundred talents. The smaller one is with-

[6] Vast mounds of the chippings of the stone, and of the materials which were mixed in the mortar, yet remain on the brow of the hill to the north of the Great Pyramid.

out inscription, but has an ascent cut into it through one of the sides. It happened that neither of the kings, who constructed them for their sepulchres, was buried in them; for the multitude enraged at the sufferings endured in the building them, and at the many cruel and violent actions of these kings, threatened to pull their bodies to pieces, and tear them insultingly from the tombs.[7] Thus, both at their deaths charged their relations to inter them secretly in some obscure place. Mikerinus, by some called Mecherinus, succeeded — he was son of the builder of the First Pyramid. He began to construct a third, but died before the work was completed. He made each side at the base three hundred feet, and built the walls, to the height of fifteen layers, of black stone, like that of Thebes, but finished the rest with stones like those of the other Pyramids. This work, inferior to the others in size, surpasses them far in the art of its construction, and the expensiveness of its material. The name of its builder, Mikerinus, is inscribed on its northern side. They say, that he hated the cruelty of the kings, his predecessors, and zealously pursued a life of kindness and beneficence toward his subjects. Besides other actions, by which he was constantly endeavouring to call forth the affection of the multitude towards him, he spent much money upon the oracles,[8] and gave presents to such respectable men as appeared not to get very agreeable answers. There are also three other Pyramids — each side of which is two hundred feet. Their size is inferior; but in construction they resemble the rest. They say the three above-mentioned kings built these for their own wives.[9] These works are acknowledged to far exceed the rest in Egypt, not only in their magnitude, and in the expense of their construction, but in the skill of their workmen; and they say, the architects are more worthy of admiration than the kings who supplied the expense—for the former effected the execution of the design by their own intellect and zealous exertion; the latter contributed but the wealth they had inherited, and the miseries of their fellow-creatures. But there is absolutely no agreement amongst the

[7] If Cheops reigned fifty years, and had sufficient power to construct the Great Pyramid, it can scarcely be supposed that his body was not deposited in it; particularly as his successor is said to have reigned fifty-six years, and to have erected a similar tomb for himself, which he would scarcely have done, had his predecessor's tomb been violated, or any doubt have existed of the security of his own.

[8] This may allude to the Sphinx.

[9] These three appear to be south of the Third.

natives, or amongst writers on the subject of the Pyramids. They are ascribed both to the above-mentioned kings, and to others:[1] for instance, Armæus is said to have built the greatest; Amasis, the Second; Inaron, the Third. Some say this latter is the sepulchre of the courtesan Rhodopis: she was beloved by certain of the Prefects of Districts, whose affection induced them to construct this at their common expense.

STRABO.

BOOK XVII.

PAGE 808.—Forty stadia from the city (Memphis) is the brow of a hill, on which are many Pyramids, sepulchres of the kings. Three of these are worthy of mention, but two are reckoned amongst the Seven Wonders: for they are a stadium, 600 feet, in height, quadrangular, the breadth of each side a little less than the height, and the one is slightly larger than the other, and has, about half-way up its sides, a removable stone. On taking this away, there is a winding gallery to the vault.[2] They are near each other on the same plain; but further off, on a higher part of the elevated platform, is the Third, which, though smaller than these two, was constructed at a much greater expense, being of black stone from the foundations to near about the middle. Out of this stone, which they bring from a distance, from the mountains of Ethiopia, they also make mortar; and being hard, and worked with difficulty, it made the construction expensive. It is called the Sepulchre of the Courtesan, which was erected by her lovers. Sappho, the poetess, calls her Doricha (the mistress of her brother Charaxus), who carried Lestian wine for sale to Naucratis. Others call her Rhodope * * * * * *. One of the extraordinary things seen by us about the Pyramids should not be omitted. Some heaps of broken stone lie before the Pyramids, among which are found raspings in shape and size like a lentil, and from some there is a protrusion like hulled corn half-shelled. The story goes that fragments of the workmen's food have been

[1] This proves their extreme antiquity.

[2] This account of the subterraneous apartment in the Great Pyramid, appears in some degree to contradict the description of Herodotus.

turned to stone, which is not improbable, since, in our own country, there is an oblong eminence on a plain, which is full of lentil-shaped pebbles of a calcareous stone. The sea and river pebbles, too, present nearly the same difficulty; but these by their movement in the water offer some mode of accounting for it, whereas here the process is more difficult to discover.

Page 811.[3]—At the end of this building (the Labyrinth) which extends more than a stadium, there is a square Pyramid, a sepulchre, each side of which is about 400 feet, and the height the same. The person buried there is Timandes.

POMPONIUS MELA.

BOOK I.

Section 9.—Pyramids constructed with stones of thirty feet, the largest of which (for there are three) occupies about four acres (jugera), and rises to an equal height.

PLINY.

NAT. HIST., BOOK XXXVI.

Sect. 16.—We will mention also cursorily the Pyramids, which are in the same country of Egypt,—that idle and foolish exhibition of royal wealth. For the cause by most assigned for their construction is an intention on the part of those kings to exhaust their treasures, rather than leave them to successors or plotting rivals, or to keep the people from idleness. Great was the vanity of those individuals on this point. There are traces of a great number of Pyramids begun and left unfinished. One is in the district Arsinois, two in that of Memphis, not far from the Labyrinth, of which also we shall have to speak. Two more exist where the Lake Mœris, the great excavation, was; but Egypt

[3] This latter paragraph is inserted for the same reason as the similar extract from Herodotus.

records among its wonderful and remarkable things the extreme points of these, which are said to rise (above the water). The remaining three, which have filled the earth with their renown, and are conspicuous on all sides to those who sail by, are situated on the African side on a barren stony mountain, between the city of Memphis and what we have said is called the Delta, less than four miles from the Nile, and seven from Memphis, near a village called Busiris, where are persons accustomed to mount them. Before these is the Sphinx,[4] an object still more worthy of being recorded, as it seems to give evidence of their venerating something of a mixed nature, like our rural deities. They suppose King Amasis to be buried therein, and assert that it appears to have been brought thither. It is smooth, and made out of the natural stone. The circumference of the head of the monster, across the forehead, is 102 feet; the length is 143 feet; the height, from the stomach to the crown of the head, 62 feet.[5] The material of the largest Pyramid came from the Arabian quarries. Three hundred and sixty-six thousand men are said to have been twenty years building it. The construction of the three cost seventy-eight years and four months.[6] The authors who have written upon them are Herodotus, Euhemerus, Duris Samius, Aristagoras, Dionysius, Artemidorus, Alexander Polyhistor, Butorides, Antisthenes, Demetrius, Demoteles, and Apion. All these authors do not make it clear who built them. It has most justly happened that oblivion has concealed the authors of such vanity; some of these have stated that 1600 talents were spent on radishes, garlics, and onions. The largest occupies eight acres (jugera); the four angles are equidistant; each side extends 883 feet; the height from the top fifteen feet.[7] (?) The length of each side of the second, between the four equal angles, is

[4] Notwithstanding the similarity of the name Abouseir to Busiris, this description of the relative position of the Sphinx proves that the author alluded to the Pyramids at Ghizeh.

[5] It does not appear by this description that Pliny saw the lower part of this figure.

[6] According to Herodotus, Cheops reigned fifty years, and Chephren fifty-six years.

[7] In the text this is, "Altitudo a cacumine, pedes 15," which is stated in a note to be so in the manuscript; and it is added, "Hoc est quindecem millia pedum cum semisse. Prius legebatur 'latitudo, ... pedes 25.'" The passage is very obscure.

737 feet. The third, which is smaller than the others, but much more beautiful, is of Ethiopian stone, and rises with a base of 363 feet between the angles; of the building there are no traces.[8] For a great space around the sand is clear, and resembles a lentil, as in the greater part of Africa. The most curious question is, how the stones were raised to so great a height. Some say they heaped up mounds of nitre and salt, as the work increased, and when it was completed, dissolved them by letting in the river; others say the scaffolding consisted of bricks, which were distributed into private houses. They hold that the bed of the Nile being much lower, the river could not have washed them away. Within the largest Pyramid there is a well, eighty-six cubits deep. The river is supposed to have been let in by it. Thales of Miletus discovered the way to take the altitude of these, and all such buildings, by measuring the shadow at the hour it was wont to equal the size of the body. These are the marvels of the Pyramids; and, to tempt no one to admire this work of kings, it remains to state that the smallest, but most beautiful of them, was made by Rhodope, a courtesan. She was the fellow-slave and companion of Esop, who illustrated his philosophy in fables; and it forms a yet greater wonder than the Pyramids, that a courtesan could have acquired such prodigious wealth.

SYNCELLUS,

A MONK, CALLED ALSO GEORGIUS, IN THE 8TH CENTURY A.D.

This author is stated to have affirmed, that the Great Pyramid, said by Herodotus to have been built by Cheops, was constructed by Suphis, whom he represents to have been of an impious character, but to have afterwards repented, and to have written a valuable treatise on sacred subjects, which was in great repute, and the only memorable circumstance attending his reign.[9]

[8] Although at present there are no traces of machinery, or of other materials, by which the mode of erecting this *Pyramid* is shewn, yet the space around it is by no means clear, but much encumbered with stones and rubbish.

[9] M. Jomard says, that the author in his chronology, pp. 54, 55, states from Manetho, that Venephis built the Pyramids.

(*Cyriaci Anconitoni Itinerarum, Florent.* 1742.)

CYRIACUS (1440)

Was greatly astonished at the size of the Pyamids, and having ascended to the summit of the Great Pyramid, he saw an inscription in Phœnician characters,—"Phœnicibus characteribus epigramma."[1]

BREYDENBACH, MAYENCE (1480).

HE RETURNED FROM HIS TRAVELS 1484.

Breydenbach visited Egypt, but he merely observes that he saw, near the Nile, a number of Pyamids, which had been erected over the tombs of the antient monarchs of the country; that they had been erroneously considered as granaries built by Joseph, in order to provide against the seven years of famine mentioned in the Scriptures: an account which could not be true, as they were composed of solid masonry.[2]

BARTHOLOMEUS DE SALIGNACE (1550)

Mentions that the Pyramids were about five leagues from Babylon, of great height, and that they were supposed to have been granaries built by Joseph.

BELLONIUS (1553),

After quoting Herodotus, says, that the height of the Great Pyramid was a thousand feet, the ranges of stone two hundred

[1] The author made plans or drawings of the Pyramids. See Vossius, lib. viii.

[2] This observation is very remarkable, as the Great Pyramid appears to be the only one which contains any chambers in the superstructure.

and fifty, and the base about three hundred and twenty-five paces; that he entered it by a square aperture in the northern side, which was more dilapidated than the others; and that, having descended by the inclined passage for a considerable distance, he arrived at the well, said by Pliny to have contained, at the depth of eighty-six cubits, the waters of the Nile, but that when he saw it, it was almost entirely filled up with stones and rubbish. He then ascended, by a passage on the left hand, to a chamber in the centre of the Pyramid, six paces long, and four broad. It was lined with polished stone, and contained a large tomb twelve feet long and six wide, formed of black marble, in which he was told that an antient king had been buried. He mentions, that the passages were much encumbered with rubbish, and infested with great quantities of bats which had long tails.

The Second Pyramid, although actually smaller, appeared at a distance, from having been built on a higher situation, of larger dimensions;—the summit ended in a point, but was inaccessible; it was solid, had no opening, and was said to have been covered with marble, and to have been intended for a tomb. He adds, that both these buildings were composed of Arabian stone.

The Third Pyramid seemed at first sight, from being placed upon still higher ground, to be of equal height with the other two, although it is in fact considerably less. It was said to have been erected by Rhodope, and was extremely handsome, as it was constructed of Ethiopian stone; which, he adds, was of so hard and close a texture, that it could not be worked with iron tools.[3]

There was also a number of smaller pyramids, of different sizes, near these three.

AUTHORS OF VARIOUS ANTIQUITIES (1560).

The Pyramids are towers in Egypt, of such an height that no human power could have constructed them; they exceed all mensuration that could be taken by their shadows:—in fact, they have no shadows.[4]

[3] A distinction seems to be drawn between tools made of iron and those of other metals.

[4] Professor Greaves alludes to the absurd tradition that the Pyramids had no shadows. This passage is, however, so obscure, that the Latin words are inserted;

JOHANNES HELFRICUS (1565)

Travelled in Egypt, and says that the base of the Great Pyramid was five hundred and sixty feet; that the courses of the stones were very high; and that it was accessible only on one part, on account of the ruined state of the exterior. He mentions that he ascended at the south-western angle by two hundred and thirty steps or ranges; but, as he took notice of a resting-place about half-way up, he probably ascended at the north-eastern corner. He says that the platform on the top was capable of holding fifty people, and was about twelve fathoms in circuit. In the interior, he describes the descending passage — a small hole that led into an excavation, whence an ascending passage, about one hundred feet long, commenced. He mentions the Queen's Chamber, and the well, which was many hundreds of fathoms deep; he also examined the King's Chamber, where he found an empty tomb — supposed to have been the sepulchre of the Pharaoh who was drowned in the Red Sea.

MR. LAWRENCE ALDERSEY (1586)

Appears to have entered the Great Pyramid; but he does not go into any particular detail respecting it.

and their meaning may possibly be expressed by the slang phrase, that *the Pyramids were a shade too large.*

"Pyramides Turres sunt in Ægypto, fastigatæ ultra celsitudinem omnem, quæ fieri manu possit. Itaque mensuram egressæ nullas habent umbras."

M. Jomard ascribes this passage to Solinus, and quotes from Ammianus Marcellinus, lib. xxii., that the Pyramids are towers of most astonishing height, gradually diminishing towards the top; and that, on account of their form, their shadows do not extend beyond their circumference. As the passage is peculiar, the original words are added: "Pyramides ultra omnem omnino altitudinem quæ manu confici possit erectæ sunt turres, quarum magnitudo quoniam incelsitudinem nimium scandens gracilescit paulatim umbras quoque mechanicâ ratione consumit." He then cites from Cassiodorus, that the shadows are confined to the spaces occupied by these buildings as follows:—"Pyramides in Ægypto quarum in suo statu se umbra consumens ultra constructionis spacia nulla parte respicitur."

He likewise mentions, from Aristides, that the priests affirmed that the Pyramids extended as far below the ground as they were high above it; from Dion Cassius, that Cornelius Gallus, the first governor sent to Egypt by Augustus, inscribed his deeds upon Pyramids.

M. JEAN PALERME (1581),

Secretary to the Duke of Anjou and of Alençon, who was brother to Henry III. of France, gives the following account of the Pyramids of Gizeh, which he visited in 1581.

He says, that, upon a close inspection, they greatly exceeded his expectations; and he considers, that they were justly esteemed one of the seven wonders of the world, observing that all the others had long since disappeared. He says, that the Great Pyramid had been built above three thousand years, and that it was constructed by one of the Pharaohs—the same who perished in the Red Sea. According to some people, the square of the base was one thousand six hundred and eighty feet; and the summit, when complete, one thousand four hundred and forty feet in height: according to other accounts, there were two hundred and fifty ranges of stones, each from three feet nine inches to four feet two inches high, which, he remarks, would give a height of about eight hundred feet[5]—but he adds, that he only counted two hundred and thirteen ranges; and as they were of different dimensions, some being so high that he required assistance to climb over them, and others not more than two feet, it was difficult to calculate by them the height of the building. It had, however, been taken by an English traveller with an astrolabe, and was found to be one hundred toises by perpendicular admeasurement; and the base was a square of one hundred and ten toises, each of six feet, and each foot consisting of twelve inches.[6] It was, therefore, three times higher than the church of Notre Dame; but easier of ascent, on account of the extent of the base: indeed, otherwise, it would have been scarcely practicable: he heard, indeed, as it was, that one traveller had accidentally fallen from the top, and had been dashed to pieces. He found the summit to be a square of about four paces, and capable of holding about forty persons; and he caught upon the top of it one of the white birds called Pharaoh's hens. He was much surprised at the wonderful state of preservation in which the Pyramids had existed for so long a time; and observed, that they were built with blocks of Arabian stone,

[5] It appears, according to this statement, that the height would be nine hundred and eighty-seven feet six inches, or one thousand and forty-one feet eight inches.

[6] He adds, that *un pas de roi* consisted of three feet.

from fifteen to twenty feet long, and half as broad; and with joints so fine, that a knife could scarcely be inserted into them. He found that several stones had been removed from the northern side; and mentions the antient traditions respecting their construction; and says that three hundred and sixty thousand men were supposed to have been employed upon the Great Pyramid for twenty years, and that they were thought to have been the Israelites. The entrance, he says, was about the seventh and eighth range of stone, and was small and square. He slid down the inclined passage, and found that the bottom was built up with a wall. He then crept through a small hole, and climbed up, but not to so great an height as that from which he had descended; and he then came to a large space, where he found, on the right hand, a long gallery, which he entered with the help of torches, which were with difficulty kept alight, on account of the multitude of bats: the examination was, therefore, attended with some danger, for if the torches had gone out, he might have missed the way, or have fallen into hollows, or down the different descents. He mentions an echo at this place, and also the well; and describes the Queen's Chamber to have been empty, to have had a pointed roof (*voutée en dos d'âne*), and to have been five or six paces long, and as many wide; he also says, that there was a cavity (*un pertuis*) in this chamber, to the left of the entrance, and that it communicated with another long entrance, which he did not enter, on account of the inconvenience and difficulty attending the operation. The account is rather confused, but it is evident that he ascended to the King's Chamber; which he states to have been a handsome apartment, about eighteen paces long, nine wide, and five or six toises in height. The ceiling, he says, was composed of four flat blocks: he saw the sarcophagus, which, he observes, had not any cover, and was composed of the same stone as that of which the obelisks are formed: he brought away a piece of it, out of curiosity. He says, that the sarcophagus was eleven palms long and six wide; and that when struck, it sounded like a bell; and that it was no doubt intended to be the tomb of the king. This was all that he observed about this Pyramid — which, he adds, surpasses the others in magnificence, and is superior to the antiquities of antient Rome. The Second Pyramid he describes as a solid mass, and says that no entrance or chambers had been discovered in it; and that, as the surface was smooth, and without steps, it was impossible to arrive at the top, which ended in a point. It appeared, he

says, at a distance, as large as the other; but upon a closer examination, the difference was evident. The Third Pyramid he found to be much smaller. It was reported to have been built by a courtesan, who, although originally a slave, contrived by her beauty and elegance to amass sufficient riches for such an undertaking. He adds, that there were a great number of smaller pyramids, and also other tombs, but that they were ruined.

PROSPER ALPINUS (1591)

Gives the following account of the Pyramids of Gizeh. The three most famous are built upon a sandy rock, five Italian miles eastward[7] of Cairo—the Third being about a mile distant from the other two. The largest, which is first approached, is composed of squared stones, of such an enormous size that,[8] in the opinion of many persons, all the mountains in Europe could scarcely supply materials for its construction. He observed, in ascending to the summit,[9] which is a platform of ten paces, that the ranges of stone, one hundred and twenty-five in number, diminished a little in size towards the top; he therefore concluded, that the Pyramid was one hundred and twenty-five paces high. He says, that each side of the base is one hundred and fifty paces long, and that the whole circumference is five hundred paces;[1] and he remarks that the southern face is much dilapidated. He then proceeds to describe the interior, of which, in his time, no correct account existed. He says that there was only one entrance till the year 1584, when Ibraham Pacha, the viceroy of Egypt, led by curiosity, and by the advice of an African magician, who told him that the Pyramid contained great treasures, enlarged the confined entrance, so that a man could stand upright in it. He also intended to blow up the Pyramid, by filling the well with powder, and was dissuaded from the attempt by Signore

[7] "Ad Orientem essent:"—it should be "westward."

[8] "Ut ad eam comparandam lapides montium totius ferè Europo vix sufficere potuisse non pauci existimant."

[9] Prosper Alpinus is said, by M. Savary, to have ascended at the S.E. or S.W. angle.

[1] This is evidently a mistake, and the whole account is so full of errors, and so confused, that it is scarcely intelligible.

Emo, the Venetian consul, who told him that it would endanger the town of Cairo.

He then says that the first part of it was formed like a square tunnel,[2] that it became round, and gradually decreased till a man could scarcely penetrate when lying flat upon his stomach. At the end of this passage the space became larger, and contained on the right hand the well mentioned by Pliny, nearly filled up with sand and stones. From this place a broad passage ascended to a great opening, which had a high-coved roof of polished stones, so well put together, that the joinings could scarcely be seen; and the floor was so slippery that the ascent was effected by means of small holes cut for that purpose. This passage was quite straight, and longer, he observes, than those in Venetian palaces. At the upper end of it, a square low entrance, fifteen or twenty paces in length, conducted to another large ascending passage precisely like the former, whence a second low passage, also about fifteen or twenty paces long, opened into a square chamber, the roof of which was formed by five polished stones; in which he found a long chest of black marble, without a lid, twelve feet long, five feet high, and as many broad. The sides of the chest were so thin, that it was doubted whether it was made of marble or of some composition.[3] Upon being struck, it sounded like a bell. He adds that there was a channel to admit light into the chamber, but that he made use of torches. He then mentions an accident which happened to one of his party, who, in going down the last ascending passage, lost his hold and fell to the bottom, "non absque multo timore, et sui corporis damno" (as might be easily imagined by those who know the place). The author further observes, that he found the well did not contain any water for seventy feet, as he went down in company with a friar, Paulo Bigi, who had lately arrived from Mount Lebanon; and he adds that, upon consideration, he does not believe that it was intended for that purpose, but to serve as a communication with the lower parts of the Pyramid, which (he believed) extended to as great a depth underground as it was high above the base. The well was easily explored to the depth of seventy feet, when a vacant space occurred whence two passages proceeded, corresponding with those found in the upper part of the Pyramid; the one conducting to the Sphinx,[4] and the other to the Second Pyramid, which building was

[2] "Trumbæ."

[3] "Seu materiâ quâ marmorii lapides nobilissimi adulterari solent."

[4] A mistake, probably, for the grotto.

called the Tomb of the Queen, and had no external entrance. These passages he would have entered, had they not been full of rubbish.

He then mentions, on the authority of Jacobus Marcus, a physician, that, in 1577, a number of Italians went to Gizeh, and having cleared away some of the sand, that they entered the Great Pyramid; but that, having gratified their curiosity, they found, on their return, the passage so much encumbered with sand, that two of them, a Venetian and a Sicilian, were obliged to remain there during the night, as the rest of the party were afraid to wait and assist them on account of the Bedouins. They returned for their companions, however, the following morning, when they were both got out without injury, but much alarmed; as, besides other disagreeable circumstances, they had been obliged to defend themselves throughout the night, not only from the bats, but from owls and other birds of prey.

He describes the Second as being situated about a stone's throw, or rather less, from the Great Pyramid; that its sides were smooth,[5] and without any steps by which it might be ascended; and also that it had not any entrance excepting the subterraneous passage, which was supposed to exist from the bottom of the well in the Great Pyramid.

The Third Pyramid, he remarks, was much smaller, was also closed up, and without steps. He observed many other pyramids intended for sepulchres, but these he could not describe, as he did not examine them. He then adverts to the Sphinx, and says that it was wonderfully carved,[6] that its entrance was probably from the Great Pyramid, and that it had been intended for an oracle.

BAUMGARTEN (1594)

States that the Pyramids formed one of the Seven Wonders of the world; that the largest was built by Chemmi, and was of such

[5] "Quinimmo latera singula marmorea plana, perpolitaque in ea observari." This is very remarkable.

[6] "Namque ipsius mentum, os, nasus, oculi, frons, auresque ex artis sculptura magno judicio ex sculpta videntur." It would appear, therefore, to have at that time been more perfect than at present, particularly as to the beard, which was found in 1817, beneath the sand.

extent, that a man from the top of it could not shoot an arrow more than the half of its circumference. He says that the base contained seven acres, and that each of its sides would have contained six acres; but that as they gradually diminished towards the top, they only occupied five cubits.[7] He also mentions that it was built with very hard stones brought from Arabia, and, as the adjacent plains were sandy, that the difficulty of conveying the materials, and of carrying on the work, seemed to him to have been almost above human power. He repeats the traditions that 360,000 men were employed on the Great Pyramid for twenty years; but, notwithstanding their grandeur, that the kings who built them were not buried in them, for fear of the resentment of the people, and that they were interred in obscure places. He says that the other two Pyramids were much dilapidated, but that each of their sides formerly contained two acres.

SANDYS (1610).

Sandys says, the Pyramids stand on a rocky level; and that, as they are built of stone, they could not have been (as Josephus imagined) the work of the Jews, whose labours were in brick: neither does he agree with Nazianzenus, that they were granaries built by Joseph before the seven years of famine; and he adopts the general tradition, that they were sepulchres of the Egyptian kings. The greatest of the three was one of the seven wonders of the world, and was supposed to stand on a square of eight acres, each side being three hundred paces in length. The summit, consisting of three stones only, was large enough for three score of men to stand upon, and the ascent was by two hundred and fifty-five steps, each step about three feet high, and of a proportionable breadth. He observes, "that the stones were too large to have been borne by our carriages; and that they were cut, afar off in Arabia, from quarries in the Trojan Mountains, so called from the captive Trojans brought by Menelaus into Egypt, and there afterwards planted." The author proceeds to quote from Herodotus the number of men and the length of time employed in its construction. He ascended at the north-

[7] This is very obscure.

eastern angle, and observed that the northern side was most worn, by reason of the humidity of the wind from that quarter.

The entrance, he says, was equally distant from each corner of the northern front; and he concludes that it had been originally closed up. After the Janissaries had fired off their guns into the entrance, he entered with an Arab guide, whom he terms a Moor, by "a most dreadful passage, and no less cumbersome, not above a yard in breadth and four feet in height, each stone containing that measure; so that always stooping, and sometimes creeping, by reason of the rubbish, we descended (not by stairs, but as down the steep of a hill,) one hundred feet, where the place, for a little circuit, enlarged, and the fearful descent continued, which, they say, none ever durst attempt any further, save that a Basha of Cairo, curious to search into the secrets thereof, caused divers condemned persons to undertake the performance, well stored with lights and other provision; and that some of them ascended again well nigh thirty miles off in the deserts—a fable devised only to beget wonder; but others have written that, at the bottom, there is a spacious pit eighty-six cubits deep, filled, at the overflow, by concealed conduits in the midst of a little island, and on that a tomb, containing the body of Cheops, a king of Egypt, and the builder of this Pyramid, which with the truth hath a greater affinity; for, since, I have been told by one, out of his own experience, that in the uttermost depths there is a large square place, though without water, into which he was led by another entry, opening to the south,[8] known but unto few, that now open being shut by some order, and entered at this place where we feared to descend. A turning on the right hand leads into a little room, which, by reason of the noisome vapour and uneasy passage, we refused to enter. Clambering over the mouth of the aforesaid dungeon, we ascended as upon the bow of an arch, the way no larger than the former, about one hundred and twenty feet. Here we passed through a long entry, which led directly forward, so low that it took even from us that uneasy benefit of stooping, and which brought us into a little room with a compact roof, more long than broad, of polished marble, whose grave-like smell, half-full of rubbish, forced our quick return. Climbing also over this entrance, we

[8] The continuation of the entrance-passage appears to be confounded with the well; and the unfinished passage from the subterraneous chamber to have given rise to the idea of a southern entrance.

ascended, as before, about a hundred and twenty feet higher. This entry was of an exceeding height, yet no broader from side to side than a man may fathom—benched on each side, and closed above with admirable architecture—the marble so great and cunningly joined, as if it had been hewn through the living rock. At the top, we entered into a goodly chamber twenty feet wide and forty in length, the roof of a marvellous height, and the stones so great, that eight floors it, eight roofs it, eight flags the ends, and sixteen the sides, all of well-wrought Theban marble. Athwart the room, at the upper end, there standeth a tomb, uncovered, empty, and all of one stone; breast-high, seven feet in length, not four in breadth, and sounding like a bell. In this, no doubt, lay the body of the builder. They erecting such costly monuments, not only out of a vain ostentation, but being of opinion that, after the dissolution of the flesh, the soul should survive, and when thirty-six thousand years were expired, again be joined into the selfsame body, restored unto his former condition; gathered in their conceits from astronomical demonstrations. Against one end of the tomb, and close to the wall, there openeth a pit with a long and narrow mouth, which leadeth into an under chamber. In the walls, on each side of the upper room, there are two holes, one opposite to another, their ends not discernible, nor big enough to be crept into—sooty within, and made, as they say, by a flame of fire which darted through it. This is all that this huge mass containeth within its darksome entrails, at least, to be discovered."[9]

Sandys then goes on to state, from Herodotus, that the daughter of Cheops erected the Second Pyramid, which was less than the former, "smooth without, and not to be entered." The third, he observes, stands upon higher ground, and is much smaller than the others; and, according to Herodotus, was "greater in beauty, and of no less cost, being all built of touch-stone, difficult to be wrought, and brought from the furthest Ethiopian mountains; but surely not so, yet intended they to have covered it with Theban marble, whereof a great quantity lieth by it." He adds, that it was said by some to have been

[9] From this description, and from the rude prints which accompany the narrative, the entrance into the Great Pyramid appears to have been in the same state as it is at present, excepting a large stone in the upper part of the entrance, and some small masonry above the angular blocks over the passage. The Second Pyramid seems to have been in the condition in which Belzoni found it.

built by Miserinus, the son of Cheops; by others, by Daluka, or by Rhodope, whose slipper being brought by an eagle to the king, Amasis, he ordered search to be made for her, married her, and afterwards erected for her this monument.

VINCENTZIO FAVA (1615).

Vincentzio Fava visited the Pyramids in company with Signore Gorgie, but he does not describe them.

PIETRO DELLA VALLE (1616)

Says, that the Pyramids of Gizeh are situated in a sandy plain, at the distance of twelve miles from the Nile; but that, according to Diodorus Siculus, they were fifteen miles from Memphis, and not more than five miles and a half from the river. He adds, that there were three large ones, and a great number of smaller. He conceives that the height of the Great Pyramid was not much greater than that of St. Peter's at Rome. He did not measure it himself, as he believed that the dimensions taken by Bellonius were correct. He found that its base was about three hundred or three hundred and fifty paces, and that there were from two hundred and ten to two hundred and fifty ranges of stone, from two to four palms high. The masonry was very good, particularly about the entrance, which he conceives was originally concealed. He was greatly astonished at the passages which led to the centre of the Pyramid, where the body was entombed. He found that the first passage was square, and that it descended rapidly for two hundred paces in a direct line. It was so small, that a man could not proceed in it upright; and he conceived that it had been so formed to make the entrance more difficult. The stones of which it was composed were from twenty to thirty palms in length. At the end of this passage he came to an open space, whence he entered, on the left hand, an ascending passage with a pointed roof, which was also well built, and was ascended with difficulty, on account of the smoothness of the floor. The King's Chamber was twenty-one feet broad and forty feet

long, and its roof was composed of seven stones placed across it. The tomb at the end of this chamber was made of so hard a stone, that he tried in vain to break it with a hatchet. It sounded like a bell, and had not any cover. It must have been placed in the chamber when the Pyramid was built. The Arabs informed him that the king for whom it was intended was not buried in it. This Pyramid was the only one open. He went to the top of the building, from whence the sea was visible. Several arrows were shot by the Turks, none of which went beyond the base.

He then examined the smaller Pyramids, but was not able to ascend them; and also the Sphinx.

M. DE VILLAMONT (1618)

Assigns to the base of the Great Pyramid four hundred paces, of two feet and a half to each pace. He found that it had about two hundred and fifteen ranges of stone, and was more than nine hundred and ninety-two feet high; that the platform on the top, which, from below, seemed to end in a point, was composed of one stone fifteen feet square. The Janissary who attended him could not shoot an arrow beyond the base. He descended by the same way he went up, as the rest of the Pyramid was much ruined. He then says, that he went into the interior by a well-constructed doorway; and that, having descended twenty feet, he entered, by a low and narrow passage, a large chamber full of rubbish.[1] Having returned from this apartment, he ascended, on the left hand, by a long passage, which had no steps but "*des relais*" on each side, without which it would have been difficult to have proceeded,[2] and entered into a second chamber, thirteen or fourteen paces long, eight broad, and sixteen high, where he found a tomb of black marble, eight feet and a half long and five high, which he conceives must have been built into the apartment. In returning from this chamber he saw the well, into which, he was informed, that the last Pacha of Cairo had caused a man, condemned to capital punishment, to be lowered down in search of treasure. When at a considerable depth, the

[1] This appears to be the Queen's Chamber.

[2] The ramps appear to be alluded to.

cord broke, and the man fell to the bottom; where, his light having been extinguished, he wandered about in the dark for a considerable time till he found a path, in which he proceeded till the following morning, when he perceived daylight, and at last came out in the desert: he then returned to Cairo, and received the Pacha's pardon.

The Second Pyramid appeared at a distance, from its elevated situation, to have been higher than the Great one; but, upon a nearer view, this was found not to be the case. The top of it was inaccessible. M. de Villamont says that it was well built, but did not contain any thing remarkable.[3] A third Pyramid, lower than the two former, and constructed of marble, was near the second. It was entire, but had no entrance, nor steps by which it could be ascended. There were many other smaller Pyramids near these three.

(*Itinerarium D. Benjaminis, cum Versione et Notis Constantini Lempriere. Ludg. Bat.* 1633.)

RABBI BENJAMEN (1633)

Was born at Tudela in Spain, and travelled from 1160 to 1173. He wrote an account of his adventures in Hebrew, in which he observes, that there was a Pyramid (Anuid) near Mesr (Cairo), constructed with great skill, the most extraordinary building in the world.[4] He adds, that the Granaries of Joseph were composed of the finest masonry, and were distant two parasangs from the antient city, which had been entirely destroyed, but that the ruins of walls and of houses remained. The Pyramid was near the Granaries, and was built with matchless skill.[5]

[3] As the Pyramid was not opened, this could not have been ascertained.

[4] Anuid may mean column or obelisk, as well as pyramid.

[5] It seems that the Pyramids destroyed by Karacoush were called the Granaries of Joseph. (See De Sacy.)

As one Pyramid is only mentioned, the author was probably anxious to attribute the erection of these buildings to the Hebrews.

The tradition that the Pyramids were the Granaries of Joseph, is also mentioned by Marinus Sametus Toxellus, in his work, "Secreta Fidelium Crucis," which he presented to the pope in 1321. He observes,—about fifteen *miles from* Babylon in Egypt are some extremely lofty triangular Pyramids, which are said to have been the Granaries of Joseph, and near them are the ruins of the antient city Thebes.

PROFESSOR GREAVES (1638-9),

In the two first chapters of his work upon the Pyramids, examines at considerable length several of the antient authors, whom we have already quoted, respecting their construction, and comes to the conclusion that the Great Pyramid was built by Cheops (the same as Chemmis; or Cham with a Greek termination), whose reign commenced CIOCCLXVI years before Christ, and lasted fifty years; that the Second was built by Cephren or Chabryis, who reigned fifty six years; that the Third Pyramid[7] was built by Mycerinus, who reigned seven! and also that a Fourth Pyramid was built by Asychis, the duration of whose reign is uncertain. He then alludes to the various accounts, given by Oriental writers, and to that contained in a book called "Morat-Alzeman," that they were built by Joseph, by Nimrod, by Queen Dalukah, or by kings of Egypt, to guard against the consequences of the flood; that they were the sepulchres of King Saurid, of King Hougib, and of Fazfarinoun, son of Hougib; or that, according to the Sabeans, the Great Pyramid was the sepulchre of Seth.

In the third chapter, he considers more immediately for what purpose the Pyramids had been constructed, and states his belief that they were tombs; and he mentions, in support of this opinion, the testimonies of several antient and Arabian authorities, and cites, more particularly, the existence of a Sarcophagus in the Great Pyramid. The enormous magnitude of these buildings he conceives to have been intended for the security of the bodies entombed, whose preservation was supposed to have been connected with the existence of the soul: and in further support of this idea, he refers to the custom of embalming; and, amongst other quotations and references, to the assertion of Plato, that this connexion between the soul and the body, and the wonderful preservation of the latter by artificial means, prove how firmly a belief in the immortality of the former existed in the earliest ages. He then alludes to the different modes of embalming, and to the funeral rites performed by the Egyptians; and observes that embalming was evidently in use in the time of Joseph, and remarks that the Hebrews are said, by Tacitus, to have, in many respects,

[7] The Third Pyramid could scarcely have been finished in seven years.

imitated the Egyptians in these matters. He considers that, in a passage of that author, "condere" was inserted by mistake, instead of "condire;"[8] and that embalming and preparation were signified, and not concealment or interment. He observes, that something of the same kind is mentioned by Homer in his description of the funeral of Patroclus; and by Virgil, in relation to those of Misenus and Tarquinius; also, that the great burnings at the funeral of Asa, king of Judah, was another instance; and that Jacob and Joseph were likewise embalmed after the manner of the Egyptians. He says, that of the two arks, which, according to tradition, were carried by the Israelites in the Desert, one contained the covenant, and the other the embalmed body of Joseph—probably in a wooden mummy-case; although in the accounts of the Arabs and Persians, that patriarch was buried in the Nile in a case of glass. After referring to the doctrine of transmigration, with which Pythagoras became acquainted in Egypt, he mentions, on the authority of Diodorus and Strabo, the pains taken by the antient kings of Egypt to build lasting and durable sepulchres, and also the probability that, when Memphis had succeeded to Thebes, the same anxiety for the preservation of the dead incited the building of the Pyramids; since it was a prevailing opinion amongst the antient Egyptians that this life is of short duration in comparison with that after death, and that the sepulchres were therefore termed eternal mansions, and decorated with exquisite adornments.[9] The peculiar form of the Pyramids, he conceives, was adopted as being the most durable, and also as being symbolical of the Creator; and he quotes from Pausanias, that in Corinth, Jupiter Melichius, and Diana (surnamed Patrôa,) were represented by pyramids or columns: and from Clemens Alexandrinus, that an idolatrous observance of obelisks and pyramids was the most antient mode of worship, and was practised before the invention of sculptured images. He observes, also, that, according to Servius, men of renown were formerly buried under, or in a mountain, whence the custom was derived of erecting over their tombs pyramids or vast monuments; and he cites as instances the King's Pillar (of Absalom); the custom, described by Pausanias, as having been practised by the Sicyonians; and also the

[8] "Judæos ab Ægyptiis didicisse condere cadavera potius quam cremare."—Tacit. *Hist.* L. S. Spond, lib. i. c. 5.

[9] "For we know that if our earthly house of this tabernacle was dissolved, we have a building of God, an house not made with hands, eternal in the heavens."—2 Cor. chap. v. 1.

pyramidal sepulchre of Porsenna, of which he gives the following description:—"He was buried without the city (Clusium),[1] under a monument of squared stones; each side of it was three hundred feet broad, and fifty feet high. Within the square basis, an inextricable labyrinth had been constructed; whither whosoever adventured, without a clue, could not find a passage out. Upon this square were placed five Pyramids — four in the angles, and one in the centre — seventy-five feet broad at the bottom, and one hundred and fifty in height; they were pointed in such a manner, that at the top there was one brass circle, and coverings for them all, from which bells suspended by chains, when moved by the wind, give a sound afar off, like the building at Dodona. Upon this circle four other Pyramids, each of them one hundred feet high, had been contrived; above which, upon one plain, were five other Pyramids — the altitude of which Varro hesitated to mention; as, according to the 'Etruscan Fables,' 'it was as much as that of the whole work: with so vain a madness he sought glory by an expense useful to no man, wasting besides the wealth of his kingdom, and after all the commendation of the artificers should be the greatest.'"[2]

The learned professor then proceeds to describe the dimensions, and construction of the Great Pyramid, which, he says, is placed on a rocky eminence, situated on the border of the Libyan desert, and about one hundred feet higher than the adjacent plain. The mensurations, taken by Thales Milesius, were not extant; and, in his opinion, the account of Diodorus Siculus was more correct than those of the other antient authors. Professor Greaves ascertained that the perpendicular height was four hundred and ninety-nine feet; the inclined, six hundred and ninety-three feet; and that the base was rather less, although it comprised 480,249 square feet; that the summit terminated in a small flat or square of 13 and $\frac{280}{1000}$ English feet, consisting of

[1] Clusium, now Chiusi, in the Val Chiana, was formerly denominated Camers. Not a vestige remains of this tomb; but at Albano is an antient monument, adorned with pyramids, vulgarly called that of the Horatii and Curiatii, but supposed, with more probability, to be the monument of Aruns, son of Porsenna, who was killed at the storming of Aricia. These buildings, and the Egyptian forms, seen in the portals of the Etruscan monuments at Castel d'Asso, and also at Tarquinia—and, it may be added, at the excavations in the valley of Cava Dessica, between Noto and Modica, in Sicily—evidently determine the origin of the Etruscans from Egypt, or from one common source.

[2] Pliny, L. 36. 13.

nine stones, and that two were wanting at the corners. He remarks also, that this space, according to Henricus Stephanus, in his "Commentary on Herodotus," was said to be eight orgyiæ (or six feet); according to Diodorus Siculus, nine; and to Pliny, twenty-five.

This platform had been supposed to have been used for astronomical observations, as was related by Proclus; but he conceives, that the additional height could not, in this situation, have been of any consequence, and that the Pyramid was simply a tomb.

It was most easily accessible at the north-eastern angle.

The ranges of stone towards the bottom were about four feet in height and three in breadth, and diminished towards the top to the height of about two feet—the antient account, that the smallest block in the edifice measured thirty feet, applied, in his opinion, to cubic measure—they were supposed to have been quarried in the Arabian mountains. Notwithstanding the dilapidated state of the building, the courses of stone were counted by himself and his companion, Titus Livius Barretinus, a Venetian, and were found to be two hundred and seven or two hundred and eight. He observes, that the number of them had not been given by the antients, and that the modern accounts of them varied; that they were, according to Bellonius, two hundred and fifty; to Albertus Lewinstein, two hundred and sixty; to Johannes Helfricus, two hundred and thirty; and to Grimano, two hundred and sixteen. He ridicules the antient assertion that the Pyramids had not shadows, although at noon-day they are not always to be observed; and in proceeding to describe the interior, he attributes the want of accuracy in the antient historians to a religious awe, and to a reluctance to disclose their mysterious construction, and also to their credulity in trusting to the assertions of the priests, who, for instance, had informed Aristides that the foundations were as deep below the base as the Pyramid was high above it.

Before, however, he enters into any further detail, the author inserts the account of Ibn Abd Alhokin; observing at the same time, that the Arabian traditions respecting these buildings were apparently mere fables.[3]

Professor Greaves then describes his ascent over a mound of rubbish thirty-eight feet high, to the entrance in the centre of the

[3] See Arabian authors.

northern front, which declined at an angle of twenty-six degrees. The incline began at the exterior of the Pyramid, and at about the distance of ten palms a straight passage commenced at the same angle, 92½ feet in length, and 3·463 feet in breadth, but which diminished considerably in height as it proceeded. The forced passage, which was probably made by Al Mamoon, caliph of Babylon, extended eighty-nine feet, was of various heights, and much encumbered with rubbish. The Professor got over a large block, eight or nine feet high, into the ascending passage, the pavement of which was of marble, although the roof and sides appeared to be of a different stone: The length of it was one hundred and ten feet. He then entered the large gallery, by a narrow horizontal passage, at the end of which, on the right-hand side, he came to the well, and found that it was circular, and not square as the Arabian writers describe; it was three feet wide, and was made of white marble, and places for the hands and feet of persons descending had been excavated in it. It had been, according to Pliny, eighty-six cubits in depth, but, as it was partly filled up with rubbish, he could only measure with a line to the depth of twenty-feet; he supposed that it conducted to the vaults mentioned, but not described, by Herodotus. Having proceeded, on a level with the mouth of the well, for about fifteen feet, he entered, by a low passage, a hundred and ten feet in length, an arched vault or chamber, which was half full of rubbish, and had an offensive smell. The length of it, east and west, was nearly twenty feet, the breadth about seventeen, and the height nearly fifteen. The roof met in a ridge in the middle, the wall was plastered with lime, and had a glistening appearance.

He then mentions the niche on the eastern side of the room, and the vague traditions that it communicated by a passage with the Sphinx, or was a place for an idol. Having returned towards the well at the end of the passage, he went up at the distance of fifteen feet into the higher level of the great gallery, which likewise ascended at an angle of twenty-six degrees for the length of a hundred and fifty-four feet. It was built of white and polished marble; was twenty-six feet in height, and in breadth $6\frac{810}{1000}$; the passage in the middle was $3\frac{455}{1000}$ feet; the ramps on each side were $1\frac{717}{1000}$ foot wide, and as much in depth. He observed the holes in the ramps, and that the courses, seven in number, of which the walls were formed, gradually contracted towards the roof. At the upper end of the great gallery he entered into two antechambers, formed of Thebaic marble. The

second was seven feet long, three feet and a half wide, and ten feet high. Three grooves had been cut on the eastern and western sides, within two feet and a half of the top, which he says was wider than the bottom. These two apartments were separated by a stone of red speckled marble, which was fixed within three feet of the pavement, and two feet below the roof. He mentions the lines that are cut perpendicularly over the entrance into the King's Chamber, and, as he did not find any other engravings or sculptures in the whole Pyramid, he was much surprised at the statements of the Arabic authors, about the various inscriptions said to have been engraved upon it, and was at a loss to imagine upon what authority Dio, or his epitomiser Xiphilinus, asserted that Cornelius Gallus, whom Strabo (lib. xvii.) more truly names Ælius Gallus, and with whom he travelled into Egypt, had engraved in the Pyramids his victories, unless he alluded to some other pyramids that had been destroyed.

From the antechamber he entered an apartment by a square passage about the same size as the others, nine feet in length, and formed of Thebaic marble. This chamber was twenty-four feet distant from the great gallery, exactly in the centre of the Pyramid, and nearly as far from the base as from the apex. It was most beautifully formed of six ranges of blocks of Thebaic marble, very highly polished; and its roof consisted of nine stones of the finest workmanship, and of equal widths, although the halves of the two at the eastern and western ends were concealed by the masonry.

Upon a minute examination, he found that the length of the chamber was 34·38 English feet, the breadth 17·19 feet, and the height 19·5 feet; and observes, as the apartment had remained entire for so many ages, that it would probably serve for a considerable time as a standard of mensuration.

He adds the following scale of admeasurements:—

English feet	1000
Roman pes Colotianus	967
Paris	1068
Spanish	920
Venetian	1062
Rhinland	1033
Braccio of Florence	1913
Braccio of Naples	2100
Derah of Cairo	1824
Pike of Constantinople	2200

He observes, that the Sarcophagus emitted a sound when struck, in the same manner as an antient monument did which stood in Woolwich Park, and which had been brought, by Mr. Rolt, from Smyrna; that as for the body, it was supposed by some persons to have been removed; but that, according to Diodorus, neither Chemmis nor Cephren were buried in the tombs built for them, but in obscure places, from a dread of violation in consequence of the hatred of the people.

The Sarcophagus and the Chambers were composed of the same material, called Thebaic marble, which he considered to be the porphyry called, by Pliny, *lucostictos*; whilst his companion, the Venetian, thought that it had been quarried from the rocks of Mount Sinai. Whatever, however, might have been the material, it was without engraving or sculpture, and was, on the outside, seven feet 3·5 inches in length, three feet 3·3 inches in depth, and the same in breadth. The interior was 6·48 feet in length, 2·21 in breadth, and 2·86 in depth, and he says that its dimensions shewed that the human stature had for many centuries been the same.

The sarcophagus stood in the middle of the chamber, north and south, and was twice as far from the eastern as from the western side. He perceived an excavation beneath it, and that a large stone had been removed from the pavement at the north-western angle, which Sandys considered to be the mouth of a passage leading into other apartments, but which in his opinion had been taken up in search of the treasures which were formerly placed in antient tombs; as was the case, according to Josephus, when David was buried in Jerusalem, when, besides the usual solemnities, riches were deposited in his sepulchre, to so great an amount that, thirteen hundred years afterwards, when the city was besieged by Antiochus the son of Demetrius, Hyrcanus, the high priest, opened one of the vaults and took out three thousand talents, with part of which he bought off Antiochus; and some years afterwards, king Herod took from another vault large sums of money. It is likewise stated, that notwithstanding these repeated violations, the actual tomb of the king was not forced; as it had been, according to custom, concealed with the greatest care, for fear that the monument should at any time be forced open.

The author then describes the two air-channels; the aperture of the northern was $\frac{700}{1000}$ of a foot by $\frac{400}{1000}$, and its length into

the building about six feet. The southern was larger and somewhat round, but not so deep as the former, and appeared, from the blackness within it, to have been intended as a receptacle for an eternal lamp, like that which had been found in Tulliola's tomb in Italy, and in other sepulchres mentioned by Camden to have been found in England. No traces of the air-channels could be perceived on the exterior of the Pyramid.

He further adds, that Dr. Harvey, the king's physician, was surprised that any person could exist for any length of time in the interior of the Pyramid, and that he had remained there for three hours.

The professor then adverts to the foundations of a building near the Great Pyramid, that seemed to have been constructed of basalt.

With respect to the Second Pyramid, built by Cephren, notwithstanding the observations of Herodotus, and of Diodorus Siculus, the latter of whom observes that the base was one hundred feet less than that of the Great Pyramid, Professor Greaves considers that they are of equal magnitude; as it had been proved by the mensurations that had been taken by a Venetian doctor, and in some degree corroborated by the assertions of Strabo, that they were nearly of the same size. He adds, that he found the stones were not so large, nor so regularly laid, as those in the Great Pyramid, but that the surface was smooth and even, and the whole fabric, excepting where it was opposed to the south, very entire and free from inequalities and breaches.[4] There did not appear to be any entrance into the interior.

He then mentions the Hieroglyphics upon the face of the rock to the northward of the Second Pyramid, and also the Chambers excavated in the low cliffs on the northern and western sides. He says that these apartments were much encumbered with sand, and that they were entered by low portals of no larger dimensions than the entrance into the Great Pyramid.[5]

He remarks that the Third Pyramid, from its advantageous

[4] This account is very extraordinary, as the surface of this Pyramid at present is infinitely more rough, both from dilapidation, and also from a less perfect construction, than that of the larger one; and as some record, or tradition, must have existed, if the casing had been removed since 1639, it would almost appear that the professor had not personally examined the Second or Third Pyramids.

[5] These entrances are of a considerable height, and must therefore at that period have been filled up with sand.

position, appears at a distance equal to the other two, although it is in reality much less. He refers to the accounts of Herodotus, Diodorus, Strabo, and Pliny; and is of opinion, that most of the antient authors relied upon the accounts of Diodorus, and did not personally examine this Pyramid. He observes that Herodotus is also very inaccurate respecting it; and he adverts to the statements of Bellonius and P. Gillius, that it was one-third greater than the one near the Mons Testaceus at Rome, and that they found it as perfect as when it was built—being composed of a stone called basaltis, or Ethiopian marble, harder than iron itself. He himself considers that it was neither composed of nor covered with Ethiopian marble,[6] notwithstanding these statements; and had ascertained that it was constructed with a light-coloured stone; but the ruins of the temple on the eastern side of it consisted of blocks of stones of a dark colour,[7] which he supposes might have occasioned the mistake.

He then briefly notices the other smaller Pyramids, and proceeds to those of Saccara; and afterwards quotes from Herodotus and other antient authors, the different methods in which the Pyramids were supposed to have been erected; and mentions also the petrifactions found in the stones; but his remarks do not throw any additional light on either subject.

Professor Greaves refers to, and mentions, the following authors:—

Mentions — Euhemerus; Duris Samius; Aristagoras; Dionysius; Artemidorus; Alexander Polyhistor; Butorides; Antisthenes; Demetrius; Demoteles; Apion; Ammianus Marcellinus; Solinus.

Quotes from — Herodotus; Diodorus Siculus; Strabo; Pliny; Pomponius Mela; Aristides; Thales Milesius; les Voyages de Seigneur Villamont; Bellonius; Albert Lewenstein; Johannes Helfricus; Sebastianus Serlius; Cardinal Grimano; Cassiodorus; Xiphilinus in Cæs.; Ælius Gallus; Henricus Spondanus, de Cœmeteriis Sacris; Brodæus, Epig.; Josephus; Morat Alzeman; Ibn Abd Alhokm"; Leo Africanus; Plutarch, in Antonio; Scaliger, in Eusebii Chronic.; Manetho; Eusebius; Syncellus; Tatianus, Justin Martyr; Clemens Alexandrinus; the

[6] Between the time of Gillius, 1553, and that of Greaves, the casing of the lower part, which, it has been remarked in the course of this work, had no doubt been revetted with granite, may be easily supposed to have been taken away.

[7] The ruins of the temple, on the eastern side of this Pyramid, are of the same coloured stone as the surrounding buildings. It would seem that the professor was satisfied with a distant and cursory view of these monuments, as is frequently the case with other travellers.

Bible, *passim;* Lysimachus; Tacitus; Emir Cond; Pausanias; Tatiani Orationes; Diogenes Laertius; Italicus; Abd el Atiff; Abulfeda; Berosus; Machrisi; Masondi; Pythagoras; Virgil; Homer; Pierius; Henricus Stephanus; Proclus; Plato.

M. DE MONCONYS (1647)

Says, that out of a number of Pyramids, two were much larger than the rest, and that a third, of less size, was about one hundred paces distant from those two, but was so dilapidated that it could not be ascended; neither had the entrances to the others been discovered, so that the Great Pyramid was the chief object of interest. He found this building five hundred and twenty feet high, with a base of six hundred and eighty-two feet. It faced the four cardinal points. The ranges of stones (like steps) were two hundred and eight, of the average height of two feet and a half. The summit was a platform, sixteen feet square, composed of twelve very large stones. The entrance was on the sixteenth step, nearly in the middle of the northern face. It was three feet six inches high, three feet three inches wide, and continued at an angle of sixty degrees, to the distance of seventy-six feet and a half. At the end of it was a space full of rubbish, from whence several passages led to various chambers. All the passages were filled with sand and stones, excepting one in a line with, and about the size of, that by which he had entered. It ascended, at an angle of sixty degrees, to the length of one hundred and eleven feet, where another lofty communication, six feet four inches wide, continued, in the same direction, one hundred and sixty-two feet three inches further; and conducted to the door of a chamber, which contained a tomb, three feet one inch in width, three feet four inches in height, and seven feet two inches in length. It had no cover, and was supposed to have been the tomb of Pharaoh. The chamber was thirty-one feet long, nineteen high, sixteen wide, and nine stones composed the roof; and the sides, and floor, and also the passages, were formed with very large blocks. Another chamber, below this, was entered by an horizontal passage, which began from a square pit or well, and was one hundred and sixty-two feet long. The well was very deep, but inaccessible on account of bats and venemous animals, with which,

indeed, the whole Pyramid abounded. This well had no other aperture than the entrance at the top, and was said to communicate with the Sphinx, which he then describes, and supposes to have been intended for an oracle.

In an accompanying print, which gives a view of the Pyramids, the trees near the Sphinx are represented.

M. THEVENOT (1655)

STATES that three were considerably larger than all the rest of the Pyramids; that of these three, one was comparatively small; that the largest was the only one that could be ascended, or that was open; and that the entrance had been concealed by masonry, until a Pacha of Egypt discovered and forced the passage. M. Thevenot took the admeasurements of the Great Pyramid, and having compared them with those taken by Elzear (a Capuchin friar), he had reason to believe they were correct. He ascended the building at the north-eastern angle; and found that it had two hundred and eight ranges of stone, from two feet and a half to three feet and a half high; and that the height of the whole was five hundred and twenty feet—the base was six hundred and eighty-two feet. He observed the chasm about half-way up, which he calls a small chamber. The summit, composed of twelve large stones, was a square of sixteen feet eight inches. The entrance was on the sixteenth course, on the northern side, and was approached over a mound of rubbish. It was three hundred and ten feet distant from the north-eastern angle, and three hundred and seventy-two feet from the north-western. The stone over it was eleven feet long, and eight feet wide. The entrance was a square of three feet three inches, and descended at an angle of 60° for seventy-six feet five inches and six lines; from thence another passage, one hundred and eleven feet in length, ascended at the same angle. The forced entrance between these two passages was encumbered with rubbish. M. Thevenot then appears to allude to the excavation made by the caliphs, which he conceives to have been occasioned by time. He takes notice of the well at the end of the ascending passage, and says that two other passages commenced from it, of which the lower was horizontal, three feet three inches square, and con-

ducted to a chamber which had an inclined roof. Having heard that it contained an opening or window, which communicated with other apartments, he searched for it several times with a ladder, but could not find it, and therefore does not believe that any such opening existed.[8] He then climbed up to the great gallery, and ascended to the King's Chamber. This gallery was one hundred and sixty-two feet long, six feet four inches wide, and had on each side a ramp two feet and a half high. The chamber was thirty-two feet long, sixteen wide, and nineteen high, and had a flat roof composed of nine blocks, sixteen feet in length; seven of them were four feet wide, but those at each end only two feet in width, as the half of each of them was built into the wall. At the further end of this chamber he examined a sarcophagus, cut out of one block, seven feet two inches long, three feet four inches broad, three feet four inches high, and above five inches thick. It was entirely empty, and when struck, gave a remarkable sound. It was composed of a very hard kind of porphyry, finely polished, and had been broken in several places with hammers, in order to obtain fragments to make seals with.[9] The chamber was lined with the same sort of stone. It was usually supposed to have been intended for the tomb of the Pharaoh who was drowned in the Red Sea; and he conceives it must have been placed in the chamber before it was finished. He then mentions the examination of the well by Elzear, the Capuchin, in September 1652, and states that the operation was attended with so much risk, that he (M. Thevenot), although he had cords, did not choose to venture, particularly as, from the relation of the Capuchin, there was not much to be seen; but he says that a Scotch gentleman was let down with some other persons, which was the second time it had been entered, but nothing was discovered more than had been seen by Elzear. The well was not entirely perpendicular; it went down about sixty-seven feet to a grotto, whence it again descended to the depth of one hundred and twenty-three feet, when it was filled up with sand. It contained an immense quantity of bats, so that the Scotchman was afraid of being eaten up by them, and was obliged to guard the candle with his hands. This well, he conceives, was made for the conveyance of mummies into the cavern under the Pyramid. He

[8] This may possibly have been a mistake for the opening leading to Davison's Chamber.

[9] "Pour en faire des cachets."—See Dr. Clarke's account of this sarcophagus.

then went to the Second Pyramid, which was closed. Its base was six hundred and thirty-one feet. The Third was much smaller and of less importance, and appeared to have been cased with the same sort of stone as that with which the chamber of the Great Pyramid is lined, as a number of blocks were lying around it. He quotes from Pliny, that three hundred and seventy thousand men were employed on the Great Pyramid for twenty years, and that one thousand eight hundred talents were expended upon vegetables alone for their food. He took notice of the three temples near the Pyramids, and says that near that of the Second there was a subterraneous passage, reported to communicate with the Sphinx, which was supposed to have been the tomb of Amasis; or, according to other accounts, to have been raised by Amasis in honour of Rhodope, and to have contained an oracle. The Bedoweens attacked the people he had left to guard his provisions and baggage at the entrance of the Great Pyramid, during the time he was employed in the interior of it.

MR. MELTON (1661),

An Englishman, travelled from 1660 to 1677; and his notes were published in the Dutch language, owing, probably, to the unsettled state of England at that time.

He visited the Pyramids, called, by the Arabs, the Mountains of Pharaoh, on the 27th of April, and says, that three were much more considerable than the rest, and could be seen at a great distance; that some of the others were like those of the Mummies, which he would afterwards describe;[1] and that the rest, although numerous, were of no great size. He adds, that one of the three largest was much smaller than the other two, which were nearly of equal bulk; that the Great Pyramid was the only one which could be ascended or entered; and that the passage was said to have been effectually concealed by a stone, until a pacha opened it. He ascended at the north-eastern angle, and observed the chasm half way up, which he calls a chamber. He found that the ranges of stones were two hundred and six in number, and of an average height of two feet six inches, but that some were more than three feet high. He says, in another place, that some

[1] He appears to allude to the Pyramids of Saccara.

of the stones in the lower part of this Pyramid were four feet in height; others, three feet six inches, and five feet in length—that, in the middle, they were about three feet square; and, towards the summit, about two feet high, and three feet six inches in length. The height of the Pyramid was five hundred and twenty feet; the sides of the Pyramid about six hundred and eighty-two feet; but he found that none of the three buildings were squares, and that the northern and southern sides were the largest.

Although, when seen from the ground, the summit appeared to end in a point, it was a platform sixteen feet eight inches square, originally composed of twelve large stones, some of which were wanting. He was informed that a statue had been placed upon it; and thought that it had been the case, as the Pyramid did not end in a point like the others, and as the holes, in which the Colossus had been fixed, were apparent. However, when he saw it, nothing was to be discovered but the names of various travellers.

He supposed that a stone could not be thrown, but that an arrow might be shot, from the summit beyond the base.

After the usual ceremony of discharging fire-arms into the entrance to drive away the serpents, which he rightly considered a useless precaution, he then visited the interior. He ascended, over the mound of rubbish, to the entrance, which was on the sixteenth range of stones, and about thirty feet from the centre, on the northern front. The stone over it was eleven feet long, and eight feet broad. The passage was much encumbered with an accumulation of sand, and likewise with a multitude of bats, so that the torches could scarcely be kept alight.

The passage extended to the middle of the Pyramid, and inclined so sharply that it could scarcely be traversed: and it had been so contrived, in his opinion, as a protection for the sarcophagus. It was straight, and lined on each side by blocks twenty or thirty palms in length, and was so low, that it could only be entered stooping. At the bottom of it he found a square hole, where he reposed. He then went up an ascending passage,* which had a roof formed of projecting stones, that narrowed towards the top. It was without steps, and could only be ascended with great difficulty, by laying hold of certain stones

* The ascending Passage, the Well, the Queen's Chamber, &c., are entirely omitted, either by the author or the translator.

which projected, and by taking advantage of holes cut in the smooth floor at six palms' interval.

Having arrived at the top, he entered the sepulchral chamber, which had no door: it was about forty feet long and twenty-one feet wide, and was roofed with seven blocks laid across it, which were supported by the walls.

The tomb was built aslant at the end of the chamber, and was separated from the whole body.[3]

He found also a large column made of Egyptian stone, and tried to break it with a hammer, which he took for that purpose, but could make no impression. It emitted, when struck, a sound like a bell, which could be heard at a great distance.

The tomb had no lid; and it was said, that the king for whom it was intended had not been buried in it.

The author then repeats the antient traditions, that three hundred and sixty thousand men were employed for twenty years in building the Great Pyramid; and that the construction of the three was completed in seventy-eight years and four months. He remarks, however, that nothing certain is known about them.

Mr. Melton appears to have revisited the Pyramids in company with many other persons on the 28th of the following December; when, it is to be remarked, that, on account of the water remaining from the previous inundation, he was carried by the Arabs across a canal, precisely in the same way as he would have been at the present moment.

From his observations on this and his former visit, he imagines that the hills adjacent to the Pyramids were converted into one large cemetery, probably for Memphis;[4] that all the Pyramids had entrances, and inclined passages of considerable length, leading to sepulchral chambers, which were concealed by the accumulation of the desert sands; that they also contained deep square wells, excavated in the rock, as he had found to be the case in ten which he had examined;[5] that these monuments were regularly placed; that each of the three larger were at the head of ten smaller, many of which had been destroyed. He concluded, that there had been originally above one hundred.

[3] This is very obscure, and is probably an error of the translator—"Is van 's gehaele, lichaam afgescheiden." "Lichaam" is said to mean a dead body; but the author probably meant to express that the sarcophagus was movable, and not fixed into the body of the masonry, as the pillar also evidently referred to it.

[4] This the Dutch translator terms a churchyard, "Kerkhof."

[5] It is evident that he confounds the Pyramids with the adjacent tombs, which contain shafts and also hieroglyphics.

He adds, that they were not built with blocks brought from a distance, but with those quarried on the spot, which consisted of a very hard white sandstone, and not of marble; and says, that they were situated upon a ridge of rocks covered with desert sand, as appeared by various excavations, particularly those at the north-eastern angle of the Third Pyramid.

The author further says, that he discovered on some of them hieroglyphics, which, he concludes, were the titles of the persons to whom these monuments belonged.

M. VAUSLEB (1664)

Visited the Pyramids during an inundation of the Nile, and disembarked at the edge of the Desert. He says, that there are three large Pyramids near each other, and that the biggest was the only one that could be entered or ascended. He does not appear to have counted the ranges of stones, but came to a conclusion that there were two hundred and fifty-five; and adds, that the Dutch consul had found the height to be six hundred and sixty-two feet; but by allowing three feet for each of the ranges of stone, he conceives that it was originally one hundred and three feet higher, and that the total height had therefore been seven hundred and sixty-five feet. Its base, according to the Dutch consul, was seven hundred and twenty feet, which would give 2880 square feet. The summit was a square of nineteen feet. The entrance was on the northern side, and much encumbered with sand. The height of it was about four feet; and its width would allow two people to pass. As there were no steps, holes had been cut in the floor to facilitate the descent. The length of the first passage was nearly one hundred feet, and, at the end of it, he found a very difficult hole, which opened into a large space. After proceeding a few yards to the left hand, he entered into a lofty and well-built gallery,[6] which, he remarked, was so dark, "che causa horrore," and also exceedingly offensive, from the dirt of bats and from the want of ventilation. At the end of this gallery, he passed through a horizontal passage, in which it was necesary to stoop, to a chamber of great height, said, by Sandys, to be twenty feet broad

[6] He seems to have entirely overlooked the second ascending passage of above a hundred feet, and also the Well and the Queen's Chamber.

and forty feet long. Opposite the entrance was a tomb, about the length of a man, and rather more than three feet high, formed out of one stone, which, upon being struck, sounded like a bell. The Moors told him,[7] that this was the tomb of Pharaoh. In one of the walls of this apartment, he saw a hole so small that it could not be entered, the use of which he could not understand. He was of opinion that, according to antient tradition, a trench, of the depth of eighty-six braccia, might exist in this Pyramid, which, by means of a subterraneous channel, might be filled with the waters of the Nile, and might surround a hill, on which was the tomb of Cheops, who built the Pyramid. He supposes, also, that the Pyramid contained many other passages concealed by the rubbish and stones. He adds, that, besides the passages and vacancies he has described, there were a few smaller which he did not explore, as some of them were entered with great difficulty, and others were so ruined that they were not worthy of notice.

To the south, in the same mountain on which the Pyramids are placed, he found various chambers and grottoes, many of them inscribed with hieroglyphics. He could not form a decided opinion respecting them, but concluded that they might have been tombs, or the habitations of the priests who were connected with the oracle of the Sphinx, or that they were the remains of the antient city of Memphis. He remarks, that there are five or six other large Pyramids about six miles to the south, which had been described by Pietro della Valle, Sandys, and other people; and that, two days' journey above Cairo, another of considerable size was to be seen: these are all that he observed between Cairo and Girgeh. He could not arrive at any positive conclusion why they were built, but he conceives that they were tombs of antient kings, who, for political reasons, expended their riches, and employed their subjects in their construction.

KIRCHER (1666),

In his "Treatise on Egyptian Obelisks, Hieroglyphics, and Pyramids," is of opinion, that obelisks and pyramids have mystical and hidden significations, but he does not enter into any description or give any admeasurement of them.

[7] Vansleb, like many of the old writers, calls the Arabs, Moors.

M. LEBRUN (1674)

Says, that the Second and Third Pyramids were closed, and that two of the three larger were nearly equal in size. He ascended, by the mound of rubbish, to the entrance of the Great Pyramid, which was on the sixteenth tier of stones from the bottom, and about sixty feet eastward of the centre on the northern front. He was informed, that the entrance had been formerly so exactly closed up by a large stone, that it remained a long time undiscovered, till a pacha at length succeeded in opening it.

The entrance he found to be square, and of the same size from one end to the other, it being three feet and a half high, and of nearly the same breadth; the large stone over it was about twelve feet long, and more than eight feet broad. The inclined passage continued to the length of seventy-six or seventy-seven feet, when a short and inconvenient excavation opened into an ascending passage, of about the same width, and of more than one hundred feet in length, which had a coved roof formed of stones, from twenty-five to thirty palms long. M. Lebrun states, that being a good deal overcome with fatigue and dust, he trusted, in many instances, to the observations of others: and proceeds to remark, that a large hollow, which appeared to be the effect of time and of dilapidation, was found at the bottom of the ascending passage;[8] and that at the upper end of that communication, two others commenced, the lower one in a horizontal, and the upper in an ascending direction. He then mentions the well, and repeats M. Thevenot's account of it, and also that gentleman's description of the other passages and apartments, referring the reader to a print in which it is to be observed that the sides of the great gallery incline inwards and meet at the top. He says, that the sarcophagus was six feet two inches long, three feet one inch broad, and three feet four inches high, and remarks, that most probably it never had a cover, as it was reported that the body of the king for whom it was intended had not been deposited in it. Having been informed that there was a communication from this chamber to other passages and apartments, he examined an excavation which he found in it to the right of the entrance.[9] It was

[8] This is no doubt the forced entrance made by the caliphs, the mouth of which was stopped up by the rubbish on the outside of the Pyramid.

[9] The excavation in the floor near the north-western corner.

not however above five or six feet deep, and had no outlet, but was full of bats. In returning from this chamber, M. Lebrun searched carefully for other passages, and discovered one of a considerable size; it was, however, full of rubbish and stones, and the smell was so peculiarly offensive that he could not examine it.[1]

He then ascended the Pyramid at the north-eastern angle, and mentions a small square apartment, or chasm, about half way up. The space on the top of the building was composed of ten or twelve large stones, and was sixteen or seventeen feet square. The ranges of stone were two hundred and ten, and they measured from four to six palms in height. The square of the base he states to be seven hundred and four feet; the height of the Pyramid, six hundred and seventy-six feet.

He could neither enter nor ascend the Second Pyramid, which appeared at a distance, from the elevation of its situation, higher than the great one. He did not measure the base, but he was informed that it was six hundred and thirty-one feet. The apex appeared to be so pointed, that there was scarcely room for a man to stand. The Third Pyramid was small and of little importance. He supposed that it had been cased with porphyry, because he saw many fragments of that stone near it.

He then inserts some remarks from an account of Melton, an English traveller, who was of opinion that all the Pyramids had entrances, by deep and long passages, into sepulchral chambers, although the apertures were concealed by the sand; and who states that he had seen, upon some of these buildings, hieroglyphics, which he supposed to express the names of those interred. M. Lebrun observes, that he himself had never seen any of these characters. Mr. Melton also supposed, that the three Great Pyramids were each at the head of ten smaller ones, and, although the positions of all these could scarcely be made out, that there had been one hundred of them of different sizes; and he says that they were built with stones quarried from the rock, which had been afterwards partially covered with sand. M. Lebrun thinks that the interiors of all these buildings are concealed by the sands,

[1] From an expression made use of by the author, "son plancher étoit très haut," this may allude to the passage into Davison's or to the niche in the Queen's Chamber: it was most probably the latter, as he does not mention any peculiarity of situation, or of having used any ladder or extraordinary means in entering it, and as the Queen's Chamber is mentioned by several travellers to have been very offensive from dirt and rubbish.

for he saw in the Great Pyramid, although he did not examine them, descending passages choked up with rubbish, which were said to be of great length, and to lead to sepulchral chambers.[2] He agrees with Mr. Melton, that these monuments are not built with marble but with sandstone; and he then quotes Pliny as to the number of men employed, and the sums expended in erecting them. He expresses his surprise at the magnitude of the enormous blocks which have been placed at so great a height, and his regret that historians have not recorded the means employed in moving them.

M. MAILLET (1692),

(*Consul-General in Egypt from* 1692 *to* 1708,)

Has given a detailed account of the Pyramids, and his authority has been in many respects much relied upon. Amongst other circumstances, he incidentally mentions the northern dyke, or causeway, by which the stones were brought to the Pyramids; and he remarks that the whole of its antient course might easily be discovered, as the foundations probably remain under the soil.

He first adverts to the Third Pyramid, and observes that it had been cased with blocks of a prodigious size, some of which had been taken away, and many of the rest split by means of wedges for other purposes.

He then remarks that the Second Pyramid was surrounded, on the western and northern sides, by a foss[3] cut in the rock; that it had been also cased with hard stones, which yet remained towards the top, possibly because they could not conveniently be removed; that its ascent was tolerably easy, as far as the casing, and that the Arabs had repeatedly climbed up to the summit; that neither this Pyramid nor the Third had been opened; and that the discovery of entrances would be very difficult undertakings, although, he observes, as the entrances into the Great, and into some of the smaller Pyramids, were on the northern side, probably

[2] It would seem that he had observed the continuation of the inclined entrance passage beyond the junction of it with the ascending communication.

[3] It is difficult to imagine how the levelling of the rock, on the western and northern sides of this Pyramid, can be considered a foss.

the entrances into these were similarly situated. The Arabs informed M. Maillet, that a statue of gold, forty cubits in height, and representing the king, who was entombed in it, had been placed upon the top of the Second Pyramid, the features of which were distinctly visible from the Mokattam mountains, nine miles off; and he thinks it probable that a large statue of granite may have been placed there, and have been afterwards destroyed by the Mahometans.

With respect to the Great Pyramid, notwithstanding the assertions of many writers that it had never been cased nor yet closed up, and that it was intended for the tomb of the Pharaoh who was drowned in the Red Sea, he conceives that it certainly had been closed, and also cased, like the rest, with white marble; and he considers the assertion of Pliny, that there were men sufficiently active to ascend it, a proof of the original smoothness of the surface. The entrance, which had evidently been forced, he says, was one hundred feet above the base, and was approached over a mound of rubbish; the passage, three feet three inches square, descended at a sharp angle for one hundred feet, and had been, in the first instance, closed up with large stones, of the same marble with which it was built, put together with cement. He conceives that these blocks had been loosened by means of hot water, and says that they had, at all events, been taken out without injury to the walls of the passage, where notches had been cut in the floor to assist the descent. It was evident that, at the end of this passage, attempts had been also made to remove the stones with which another, ascending at nearly the same angle and in a direct line with the former, had been closed up;[6] and he describes the difficulty attending the supposed search for this communication, and the labours and risks incurred in excavating the stones that concealed it. He conceives, that when the granite blocks, that filled up the ascending passage, were discovered, an excavation had been made to the right to get round them, and to re-enter it at a higher point, and that, as the granite blocks, at present to be seen at the bottom of this passage, do not exactly fit, that those originally placed there had been broken up and removed, and that the rest had slid down from the upper part; and he concludes that, with the exception of these three, all

[6] Unless from previous information, it does not appear why any ascending passage should have been expected. It has, therefore, been supposed that the calcareous stone which concealed the granite blocks in it, must have accidentally fallen out of the ceiling of the descending passage, and have led to the discovery.

the blocks with which this passage had been filled, were successively broken up and carried away. He adds that it was evident, from the ruined appearance of the passage, that great violence had been employed on the occasion. He then describes the large passage, or gallery, to be 6½ feet wide including the two ramps, which were 2½ feet high, and one foot and a half wide. The length of it he found to be one hundred and twenty-four feet, although he remarks that others had made it one hundred and forty feet. He states, that above the ramps, at the distance of 2½ feet, niches have been cut one foot in length, six inches wide, and eight inches deep; and that the sides of the gallery were twenty-five feet high, and narrowed towards the top by the gradual approximation of the ranges of stone composing them, which, he says, were four in number. He then adverts to the Well, the Horizontal Passage, and the Queen's Chamber. The passage was one hundred and eighteen feet in length, and three feet three inches square. The chamber itself had an inclined roof, was 17½ feet long, fifteen feet ten inches wide; and in the niche on the eastern side, three feet deep, eight feet high, and three feet wide, he supposes the mummy of the queen to have been placed upright. He mentions excavations made in it to the depth of twenty or twenty-five feet; and is of opinion that the slight projection, on the right side of the entrance into this chamber, was intended to prevent the stones, with which the horizontal passage had been filled, from being forced beyond the entrance into the room, and that the stone originally placed there was made to fit it exactly. He carefully examined the great gallery by means of candles, at the end of long poles, and found that it had been injured in several places, and that, on the right, a fragment had been broken off from the edge of one of the ranges. The settling, on the western side, he considers to have been occasioned by an earthquake. He then describes the space at the upper end of the great gallery, and the manner in which he conceives the portcullis was constructed in the passage leading to the King's Chamber, and is of opinion that the grooves, over the entrance, had been intended to facilitate the insertion of the stone that closed it. The chamber itself he found to be thirty-two feet long, sixteen broad, and nineteen high, with a flat roof composed of nine stones, sixteen feet in length, seven of which were four feet wide, but those at the sides appeared only half that width, because parts of them were built into the walls. Whatever might have been originally deposited in this chamber, M. Maillet only saw a tomb of granite, seven or eight feet long, four feet

wide, and as many high, which must have been placed there when the Pyramid was built. The cover had been taken away. He conceives that the king was buried in it, and that many of his attendants were also enclosed alive in the chamber, who were successively buried by each other in separate coffins, excepting the last, who, M. Maillet remarks, could not have received any assistance, and must therefore have buried himself. He was led to this conclusion by observing the air-holes, which he states to have been exactly in the middle of the opposite walls, and at the height of 3½ feet from the pavement. That on the northern side was one foot wide, eight inches high, and had penetrated, in a horizontal direction, to the outside of the Pyramid. M. Maillet, however, found it stopped up with rubbish to within five or six feet of the chamber. The mouth of the other channel, which he says was on the eastern side, he describes as being perfectly round, and big enough to admit two fists. He says that it was a foot in diameter, and descended towards the bottom of the Pyramid.[7] He conceives that these communications were made for the use of those persons who were buried alive with the dead king; that by the former they received air and also nourishment, by means of a wooden box drawn in and out with cords, and that by the latter all impurities were removed. He says that he was unwilling to search for the opening of the northern channel, for fear of exciting the jealousy of the Arabs, but that he had no doubt upon the subject. He then states that the large gallery was necessarily spacious to contain, on several scaffoldings, the stones with which the lower part of it, the horizontal passage and the ascending passage, were eventually filled up; that the space was exactly calculated to receive the whole of the materials, and that they must have been placed there when the Pyramid was built. He conceives that there were other passages still undiscovered, situated, most probably, between the two chambers already mentioned.

He then gives nearly the same account of the well as M. Thevenot, and conjectures that, when the funeral had taken place, the workmen closed up the passages with the stones contained in the Great Gallery, and descended by the shaft, the upper part of which was afterwards, by some contrivance, closed with ma-

[7] After reading this description, stated to have been the result of careful and repeated examinations, no person would suppose that both these channels incline upwards.

sonry.[8] He remarks that this communication had never been satisfactorily explored, and that the Pyramid had always been entered by the regular passage. He conceives that the interior construction of it was a profound secret, and that none of these tombs were violated until the time of the Mahometans. He says, that the one in question appeared to have been entered by the Caliph Mahmoud, who died in the 205th year of the Hegira; and who employed three years, and considerable sums, in the undertaking; and that he found little or no treasure, but saw an inscription, in letters of gold, on the side of the chamber, declaring that the impious violator of the tomb should experience, as his sole reward, the regret of having committed a sacrilegious action without any successful result. M. Maillet justly remarks, that this part of the Arabian history brings the whole account into question, as the language of the times when the Pyramids were built, and the hieroglyphics in which the inscription was expressed, must have been unintelligible to the Mahometans. He further adds, that some of the Arab historians say that the Caliph Mahmoud had an exact plan of the interior of the Pyramid, whilst other accounts ascribe the opening to the Caliph Haroun-el-Raschid; but that, at all events, it seemed that the entrance was known to be on the northern front.

He then states that the ranges of stone, besides two or three which might have been wanting at the top, were two hundred and eight, and that the Pyramid, when complete, was six hundred feet high. He says, that the names of the kings who built the Pyramids were unknown, and that history, in this respect, was not to be trusted; for that some of the Arabian traditions ascribe their construction to giants who lived before Adam; while other authorities give a fabulous account of a monarch called Gian, and of his mighty exploits. He also observes, that innumerable tombs, and also a number of pyramids of various dimensions,[9] had been found on the neighbouring rocks, which shewed the high degree of science at which the Egyptians had arrived in the earliest times: but he adds, that it did not appear that any of them, excepting the Great Pyramid, had been opened.

[8] It is remarkable that he was not led by these considerations to form any idea that the entrance-passage continued in a regular descent, and communicated with the well or shaft.

[9] It seems that, at the time when M. Maillet visited the Pyramids, great inconvenience was experienced from the accumulation of sand and rubbish in the interior; and likewise that considerable danger was to be apprehended from the Arabs.

DE CARERI (1693)

RECEIVED from Fulgentius de Tovas, a Capuchin, a plan, with the dimensions, of the Great Pyramid; and also a plan of the well, from an account of Lazarus, a Capuchin, who had explored it about the year 1670. He went to the top of the building, and he says that there were two hundred and eight ranges of stone, and that the whole had been cased with marble—that the perpendicular height was five hundred and twenty feet, and the base six hundred and eighty-two feet. The summit, composed of twelve stones, was sixteen feet eight inches square. The entrance was on the eighteenth range from the bottom. The inclined passage was seventy-eight feet long, three feet and a half high, and three feet and a quarter broad. It led to a space ten feet wide, which opened to another ascending passage, seventy-six feet long, at the end of which there were two ways,—the one, an horizontal passage, twelve paces in length, with a room at the end; and the other, six feet four inches in width, ascended for the length of one hundred and sixty-two feet, to a gallery, which conducted to a room thirty-two feet long, sixteen feet wide, and nineteen feet high, with a flat roof of nine stones. The apartment contained an empty marble tomb seven feet two inches long, three feet one inch broad, three feet three inches high. At the junction of the ascending with the horizontal passage, there was a well on the right hand, from which, at the depth of seventy-seven feet, a small cavern branched to the westward, whence an oblique-descending passage, two feet four inches broad, and two feet and a half high, had been cut in the rock. At the depth of one hundred and twenty-three feet, the well was entirely filled up with sand and stones. The Arabs said, that a passage at the bottom of it conducted to the Sphinx.

	Feets	Inches.
Entrance into the Pyramid.		
Height - - - -	3	6
Width - - - -	3	3
Length - - - -	76	0
Space at the end of the descent - -	10	0
First ascent.		
Length - - - -	76	0

	Feet.	Inches.
Second ascent.		
Length - - - -	161	0
Width - - - -	6	4
Horizontal passage.		
Length - - - -	10	0
Gallery leading to upper apartment, eight or ten paces.		
The upper apartment.		
Length - - - -	32	0
Width - - - -	16	0
Height - - - -	19	0
Tomb.		
Length - - - -	7	2
Breadth - - -	3	1
Height - - - -	3	3
Square of space on the top of the Pyramid -	16	8
Perpendicular height - - -	520	0
The base - - - -	682	0
First descent of well - - -	77	0
Second descent of well - -	123	0

He found that the height of the Second was equal to that of the Great Pyramid, but that the base was somewhat less. This Pyramid was difficult of ascent, as it was much dilapidated, and as the courses of the stones were not regular like those of the Great Pyramid. The Third Pyramid was one-fourth less. Its base twenty feet less, and its height in proportion. It was built of white stone. De Careri then recites the accounts given by Greaves, upon Arabian authority, particularly that of the opening of the Pyramid by the Caliph Al Mamoon. He observes, that they were undoubtedly tombs, and quotes Strabo, Diodorus, Heredotus, and Aristotle in support of that opinion; but he adds, that they had also been constructed for astronomical purposes.

LUCAS (1699)

Says, that the two larger Pyramids of Gizeh were about two hundred paces distant from each other, and that the Great Pyramid was the only one opened. The entrance was about three feet square, and the path to it was over a heap of sand and rubbish. The inclined passage had a coved roof; and, at the length of

sixty paces, ended in a very difficult communication, ten paces long, and about the size of a man. On the right he found an excavation, and, towards the south, a large opening with a pit, which appeared very deep, as far as he could ascertain by throwing into it stones and pieces of lighted paper. From this place he climbed up a stone, twenty-eight feet high, to a space twelve or thirteen feet long, and entered, by a small opening, an ascending passage about seventy paces in length. He observed several niches in the walls, made, apparently, for the reception of idols. A short horizontal passage then conducted to a chamber twelve paces long, and six paces large, and about twenty feet in height. The ceiling was composed of nine stones, each four feet broad; and its walls were finely polished. It contained, at the further end, an empty tomb, seven feet long, three feet wide, three feet and a half high, and five inches thick. It was composed of a very hard and sonorous stone, which, excepting for its dark colour, resembled porphyry. He then mentions another small chamber. He also states, that there was only one entrance into the Pyramid, and that, consequently, the air was exceedingly impure, and the bats very troublesome. He returned, with some difficulty, by the way he had entered; and afterwards ascended the exterior, it would appear, at the north-eastern angle, as he mentions the chasm at that place. He remarks, that the ranges of stone were not of an equal height; that the least was three feet high, and scarcely one foot wide. He arrived, with some difficulty, at the top, which was about twenty feet square, and formed by five stones, one of which appeared to be wanting. He describes the descent as still more difficult, and says, that there were two hundred and forty-three ranges of stone; that the Pyramid was more than seven hundred and twenty-nine feet in perpendicular height; and that, allowing for the depth of the inclined passage in the interior, the whole height must have been seven hundred and sixty-nine feet. He then examined the two other Pyramids, which were not open. They were built in the same manner, but were smaller than the great one. They could not be ascended, because some of the cement, with which they had been cased, still remained. He remarked, that many people had supposed that this covering was of stone, but he found it to be composed of cement.[1] He saw many other smaller pyramids of different sizes, on one of which the Sphinx was placed.

[1] It is scarcely necessary to remark upon the inaccuracy of this description.

An Account of Divers Choice Remarks, taken in a Journey, &c. By VERYARD, M.D. London, 1701. Page 297.

"OUR next digression was to the famous Pyramids of Egypt, which stand about six or seven miles from Cairo, at the border of the deserts of Africa, and are usually counted amongst the Seven Wonders of the world, and this is the only one of the seven that remains. Not to mention different smaller pyramids that are dispersed up and down in the deserts, we shall only describe the three most remarkable; they are prodigious masses of wrought stone upon a square base, lessening by degrees to the summit. The square of the base of the largest was about three hundred and twenty-two of my paces, so that the whole compass would be one thousand two hundred and ninety-two paces, but owing to the accumulation of sand, it is impossible to ascertain the exact dimensions. Two of the opposite sides appear to the eye longer than the others, by which it would appear that the base was an oblong. The height seems to be equal to one side of the base. The exterior was in the form of steps, by which we ascended, but not without some difficulty and danger, from the irregularity and decayed state of the stones. At about half of the ascent, we found a place, which seemed expressly made for a resting-place for travellers, capable of holding nine or ten persons. After remaining here some time, we proceeded to the top; which, although when viewed from below, it appears to end in a point, can nevertheless contain forty persons with great ease. From thence, we had a prospect on one side of the barren sandy deserts of Africa; and, on the other, of Cairo, the Nile, and the adjoining country, with all the towns and villages. The other two Pyramids terminate in a point; and hence it is conjectured that colossal figures may have been placed on the summits; and we observed, on the top of the Great Pyramid, an hollow place, which appears to be formed for that purpose, but nothing else is to be seen there excepting the names of various travellers, which have been cut into the stone. The number of steps, or ranges of stone, are two hundred and six. The lower are ascended with difficulty, but they gradually decrease towards the summit. We entered the Pyramid, and were forced to creep on our hands and knees to the middle of the building, where we found an hollow passage, like a large

chimney, running from the bottom almost to the top, with holes cut out on both sides to put in one's feet as we ascend. Having got to a considerable height, we found a pretty little chamber adorned with marble, with a tomb at the further end, said to be for Pharaoh, where he designed to be buried, had he not left his carcass in the Red Sea, pursuing the children of Israel. Near this was another very similar to it; but finding nothing more worthy of notice, we returned by the way we came. The other two Pyramids are much less, have no opening, and are of no great note."

QUATREMÈRE (1701),

In his translation of Makrisi, mentions an English traveller, Veryard, who had been in Egypt, and in other parts of the East, towards the close of the seventeenth century, who, speaking of his residence at Suez, says:—"From hence (Suez) we made an excursion of about five leagues into the isthmus to see a Pyramid, which may contend with the greatest of those near Cairo in all its dimensions. It has likewise steps on one side, by which we ascended to the top, where we found an obelisk of about four feet square at the base, eighteen feet high, and inscribed with hieroglyphics. It seems to be one entire stone; but how they could get any thing of that kind to such a prodigious height, I cannot easily conceive; for I am apt to think that it passes the skill of our modern architects to do the like. From the bottom of the Pyramid, we passed, through a narrow entry, into a large vaulted room, in which we saw three tombs, rising about four feet from the ground, two of which were covered with hieroglyphics. From hence we ascended, by twenty-three steps, into another room, arched like the former, but somewhat less, in which we observed six niches in the walls, and a stone in the middle, which is thought to have contained a statue, the fragments of which lie still scattered up and down the room. This is a considerable piece of antiquity, and was probably the sepulchre of some great man, though all antient and modern history is silent on the matter."[2]

[2] M. Quatremère remarks, that this narrative is very extraordinary—that it is difficult to imagine that an author who, in other respects, has given a true and rational account, would invent a story which could be so easily detected, and from

EGMONT (1709)

Says, that the Pyramids were called Djebel Pharoun: that the largest was built upon a rock, about sixty feet high, which had been hewn into the form of a camel's back. He states, that the base of the Great Pyramid was found, by Greaves, to be six hundred and ninety-three English feet: that the sides of the building faced the cardinal points: and that the entrance was on the northern side. He appears to have gone up to the top at the north-eastern corner, as he remarks the chasm, which he calls an inn, about half way up. He found that the summit was covered with six stones about six feet long, but that the intervals between them would require six other stones of equal size. He concludes, therefore, that it was either not finished, or that several of the stones had been taken down. The blocks had been put together with mortar, which contained small pebbles. He says that the ranges of stone were two hundred and six, the inclined height six hundred and seventy feet, and the perpendicular five hundred feet; and he adds, that twenty-three feet were wanting to complete the apex. With regard to the interior, he describes the entrance to be an arched passage, three feet six inches wide, cut in the rock, and faced with marble; that the passage itself was eighty-four feet long, and inclined at an angle of thirty-five degrees. It was nearly full of sand and rubbish, and at the end of it he passed through a narrow space into another passage, also cut in the rock, and ninety-six feet in length, which ascended to a square landing-place twelve feet long, and three feet four inches broad, from whence an ascending gallery, a hundred and thirty-six feet long, and six feet six inches broad between the walls, led to an upper chamber. This communication had a stone bench on each side, one foot six inches broad, and one foot six high; and the height of the roof, which contracted at the top, was twenty-two feet six inches above the pavement. The walls consisted of nine tiers of marble blocks, seven of which projected

which he could not derive any possible advantage; whilst, on the other hand, so interesting a monument could scarcely have existed in the neighbourhood of Suez without attracting the observation of some of the numerous travellers that have for so many years explored that part of the country. It is only necessary to add, that the whole story appears to be a fiction.

two and a half inches. The chamber to which it conducted was thirty-six feet long, eighteen broad, and as many high. The walls were composed of five ranges of stone, the roof of nine large blocks of Thebaic marble, and the floor was of the same material, as was also an empty sarcophagus, which he found about four feet from the farthest wall; and which was seven feet long, three feet six inches high, and six inches thick, and near it was an excavation about three paces long, and twelve feet deep. He observed two apertures, one on each side of the chamber,[3] but could not discover for what purpose they had been made. At the entrance into this chamber he saw another opening, nearly closed with sand, into which he fired a pistol. After stating Mr. Greaves' opinion respecting the cause of the extraordinary echoes which are heard in this building, he adverts to the well, which he says was divided into four parts, two inclined and two perpendicular; and which, as he was told, formed a communication with the other Pyramids, but he could not examine it on account of the sand. He refers the reader to M. Thevenot for a more particular account of it. He then entered the horizontal fissure, which was three feet square, and one hundred and thirteen feet long, and arrived at an arched chamber which was covered with marble, was eighteen feet long, sixteen broad, and eleven feet three inches high, and had a sloping roof. He observes, that nothing was to be seen in this chamber, and that it was very offensive, from the smell of bats and other vermin; and it was necessary to fire pistols in it from time to time, in order to purify the air. He took the dimensions of this Pyramid on the authority of Père Sicard, a missionary.

The Second Pyramid appeared to have been covered with marble, as a quantity of that material was to be found near it; the entrance had not been discovered. Excepting on the southern side, the surface had been well preserved, and had neither chasms nor fissures; and it was every where so smooth and even, that it could not be ascended. Near these two buildings he observed a third smaller Pyramid; and others farther off in the desert. He then quotes Diodorus and Strabo, as to the kings by whom the Pyramids were built; and narrates, from the *Morat Alzeman* various traditions that they were built by Joseph, by Nimrod, by Queen Dalukah, or by the Israelites; and from Ebn Abd Al Hokm, that they were considered to be antediluvian

[3] The air-channels.

structures, because there was no certain account of their erection: and in conclusion, he mentions the intention entertained by a pacha, in 1580, to destroy the Great Pyramid with gunpowder.

PERIZONIUS (1711).

In the "History of Egypt," by Perizonius, it is remarked that, according to Josephus, the Hebrews were compelled to build the Pyramids; but that this had been denied by others, and that much uncertainty prevailed amongst antient authors as to the date and purpose of their construction;—that Manetho says, that they were built by Venephes, the fourth king of the first, and in another place by Suphis, the second king of the fourth dynasty; and that Marsham asserts, that Venephes reigned in the time of Peleg, and of his son Reu, and Suphis in the time of Terah, before the birth of Abraham. The author, however, does not believe that these buildings are so extremely antient; neither, on the other hand, does he credit the account of Herodotus, that the three Pyramids were built by Cheops, by his brother, and by his son Mycerinus, after the Trojan war: for if they had been constructed at so comparatively late a period, more certain accounts of them would have remained. Upon the whole, he is opinion they were constructed by the Hebrews.[4]

PÈRE SICARD* (1715).

This author observes, that there were twenty large Pyramids and many smaller, that three of them were situated near the site of antient Memphis, about nine miles from Cairo; that the largest of them was five hundred feet in perpendicular, and six hundred and seventy feet in inclined height; that it was ascended by two hundred and twenty steps, about three feet in height; and that twenty-four or twenty-five feet were wanting at the summit,

[4] It is remarkable that the largest building in Rome, the Colosseum, is also said to have been built by the captive Jews.

* This author is quoted by Egmont.

which was a square of ten or twelve feet. He says, the entrance was on the northern side, and forty-five feet above the base; and that the inclined passage was eighty-five feet in length, and three feet six inches square. At the end of it, another passage, ninety-six feet in length, and three feet four inches square, ascended to a well on the right hand, which was choked up with sand. From this place an horizontal passage, three feet square, and one hundred and thirteen feet long, conducted to a chamber eighteen feet long, sixteen feet wide, and twenty-one feet high—the roof of which inclined to a ridge in the middle. This chamber did not contain any traces of a tomb. Returning to the well, he ascended a gallery, which was one hundred and thirty-six feet in length, six feet in width, and twenty-four in height, and had a roof which contracted towards the top; it had also a ramp on each side. At the end of the gallery he passed through an horizontal passage, formed of granite, twenty-one feet long, three feet eight inches wide, and three feet four inches high, to a sepulchral apartment, which was thirty-two feet long, sixteen feet wide, and sixteen feet high; it was entirely composed of granite; and, at the distance of four feet four inches from the end of it, he found a sarcophagus, seven feet long, three feet in height, and three feet and a half wide. It was formed out of a single block of granite, had no cover, and when struck, sounded like a bell. The author conceives that the history of the Pyramids, and the particulars of their construction, could be found out; likewise by whom they were opened: but he does not mention how this knowledge could be obtained.

SHAW (1721)

NOTICES the difference that exists in the various admeasurements of the Pyramids, which, arose, probably, from their being taken on different levels. He quotes the following:—

The base, by	Herodotus	800	feet.
——	Diodorus	700	—
——	Strabo	600	—
——	Sandys	300	paces.
——	Bellonius	324	—
——	Greaves	693	English feet.
——	Le Brun	704	French feet.

He supposes, that neither of the three greater Pyramids were ever finished, because the stones immediately over the entrance of the greatest are placed *en décharge*, and are of a greater height than seems necessary for so small a portal; and because, for a large space on each side of it, several of the parallel ranges are discontinued. These circumstances indicate, in his opinion, some further design; probably that of a large and magnificent portico. He considers that the ranges, or steps of stone, were intended to be cased over, although this operation did not appear to have been effected at the Great or at the Third Pyramids; while, at the Second, scarcely a quarter of the building had been finished from the top. The stones, of which the Pyramids are composed, are from five to thirty feet long, and from three to four feet high, and have been laid in mortar similar to that which is now used in Barbary; they contain fossil shells, resembling those which are observed in the rocks on which the Pyramids stand, and have evidently been quarried from them; and, indeed, Dr. Shaw is of opinion that natural eminences of rock constitute a considerable part of the interior of these buildings. He quotes, from Pliny, the antient authors who have written about these wonderful monuments, and says, that Cheops, Chefrenes, and Micerinus, are supposed to have built them; but that, according to some authors, Suphis built the First, the daughter of Cheops the Second, and Nitocris the Third; whilst others affirm that the two larger were built by the shepherd Philition, and the smaller by Rhodope. This difference of opinion he considers extraordinary; and observes that, as the Egyptians were the most learned people of antiquity, and as they were supposed to have kept a chronological account of the transactions of their kings, and of all great events, it is therefore surprising that the authors of such great undertakings should be disputed, and the account of them so uncertain, that even the purposes for which the Pyramids were erected have not been ascertained. It was generally believed that they were tombs of the antient kings: but he considers the internal construction of the Great Pyramid ill adapted for a sepulchre, and thinks that it was a temple. He remarks, that as the Second and Third had no openings, they could not certainly have been sepulchral monuments, unless each was built by the successor over the tomb of his ancestor. Taking this view of the subject, he conceives that the granite sarcophagus, in the Great Pyramid, was intended for the celebration of the mystical worship of Osiris, and he supposes it to have contained images, sacred vestments, and utensils, or water for lus-

tration. For, although its length is appropriate as a tomb, he thinks that the height and breadth are too great; besides, the Egyptian sarcophagi were of a different shape, and were adorned with hieroglyphics, and, in his opinion, always placed in an upright position; whereas the one in question is placed upon the floor, north and south, in the same direction as the entrance into the Pyramid. He further remarks, that "this chest," upon being struck, emitted the musical note (Etami), which corresponds with the chamber, and might thereby be supposed to have similar proportions, had not Professor Greaves found, by mensuration, that they were different. He further says, that, according to Herodotus, the tomb of Cheops was in the vaults below; and that it is therefore to be presumed, that the Pyramid itself did not take the name of a sepulchre from it: and, he adds, that even if the king had been buried in it, that it still might have been a temple. Strabo appears to Dr. Shaw to have been the only person among the antients who was acquainted with the entrance. The ascent to it, he observes, at present, is not considerable; but, in the time of Strabo, it might have been nearly half-way up the Pyramid, as the accumulation of sand and of rubbish must have been very great since that period. If it was open in the time of that author, the Doctor is of opinion that the descending passage was the only one then known, and that it conducted to subterraneous apartments below; or accounts would certainly have existed of the chambers of the king and of the queen, and also of the chest, or sarcophagus, contained in the former. He considers that the forced communication between the descending and ascending passages, corroborates this idea. He conjectures, that the Great Pyramid may have a communication with the Sphinx, and that underground passages may, by possibility, exist, connecting it with secret chambers in the other Pyramids.

He also adds the following mensurations, and other particulars, of the Great Pyramid:—

It faces the four cardinal points. The entrance is on the northern side, and about thirty feet to the eastward of the centre, and forty-five feet from the ground.

	Feet.	Inches.
Perpendicular height of the Pyramid - - -	500	0
Base - - - - -	670	0
The descending passage.		
Length - - - -	84	0
Square - - - -	3	6

Angle of descent, 35°.

	Feet.	Inches.
This passage is filled up with sand, and the forced passage from it communicates with the passage above, which continues, in an ascending direction, in the same line, towards the southward, as the passage of entrance.		
Ascending passage.		
Length - - - -	96	0
Breadth and height - - - -	3	6
At the end of this passage is a well, cut, partly in the rock, to the depth of twenty-seven toises; near the well is a platform.		
Length - - - -	12	0
Breadth - - - -	3	4
Whence, to the southward, in the same lineal direction, is a horizontal passage.		
Length - - - -	113	0
Height and breadth - -	3	0
Which conducts to a chamber.		
Length - - - -	18	0
Breadth - - -	16	0
Height of the angular roof - -	11	3
There is a niche, of ten or twelve paces in depth, on the left hand of the chamber on entering it, in which an excavation has been made, and the stones and rubbish have been left in the chamber. Returning from this chamber, and, from the horizontal passage to the well, the passage continues—		
Ascending - - - -	136	0
Breadth between the walls - -	6	6
Breadth between the ramps on each side -	3	6
Breadth and height of the ramps on each side	1	6
Holes in the ramps.		
Length - - - -	1	8
Breadth - - -	0	6
Depth, about - - -	0	6
Distance from one hole to another, about -	3	4
Fifty-six holes in both the ramps, twenty-eight inches each.		
Height of the roof of this passage -	22	6
At the end of this passage is a horizontal passage.		
Length - - - -	21	0
Breadth - - -	3	8

	Feet.	Inches.
Its height is unequal; in the middle of it are groovings, and it is lined with granite. It conducts to a chamber constructed with granite in every part.		
Length - - - -	32	0
Breadth - - -	16	0
Height (of five equal stones) - -	16	0

The ceiling is formed of nine large stones of equal size; but half of the width of those at the sides are built into the walls. At the right hand of this apartment, and at the distance of four feet four inches from the wall, is a monolythic tomb of granite, without any top. Its height is three feet and a half, length seven feet, breadth three feet, thickness six inches. To the right of the tomb, in the corner of the floor, is a hole about three paces long, and about two toises deep. There are two holes near the door, the one to the right and the other to the left, each about two feet square; but their length is unknown; they appear to have been part of the original construction.

M. NORDEN (1737)

Says, that the Pyramids were tombs, and erected before hieroglyphics were invented, which were unintelligible at the time of the Persian invasion under Cambyses. He also remarks, that there are four principal Pyramids at Gizeh, besides several others less worthy of notice; that all of them had been built upon the rock without any substructions; that the height of each of the two larger was five hundred feet; and that the Great Pyramid was the only one that had been opened. He observes, that they were constructed of unequal ranges of blocks, cut in the shape of prisms, and taken partly from the spot and partly from the mountains on the other side of the Nile; and he adds, that mortar had been used only in the interior. He does not believe that these buildings had been cased, although the upper part of the second Pyramid was covered with granite. He ascended, to the entrance of the Great Pyramid, by a mound of rubbish on the northern side;—it was a little to the eastward of the centre, and had been forced. An architrave over it shewed that it had had

a portal, and several stones had been removed in search of it, but common square work, like that of the rest of the building, was found behind the great stones which composed it. From this entrance five different passages led, successively, to two chambers, one below the other, in the middle of the Pyramid; and most of these communications were about three and a half feet square, and formed of white marble. He does not believe that the whole of them were filled up with masonry, although the lower end of the ascending passage had evidently been so. The Queen's Chamber, he says, is coated with granite, and not with plaster, as Mr. Greaves had asserted; and he adds, that it was half full of stones, taken from the excavation under the niche. He remarks, that the well was also encumbered with rubbish. He examined the groovings for the Portcullis, and the King's Chamber, together with the granite Sarcophagus, and the excavation in the floor, which, he supposed, was occasioned by the pavement having accidentally fallen into some cavity beneath it. He says, that the channels on the northern and southern sides were blackened by the smoke of torches, inserted from time to time by travellers, and were so full of stones and rubbish that they could not be examined: but he concludes that they were intended to ventilate the chamber. He also remarks, that the building, in general, did not correspond with the account of Herodotus.

The Second Pyramid, although of the same size, appeared, from the elevation of its site, higher than the great one, which it much resembled; excepting that it had no entrance, that the upper part was coated with granite, and that it was inaccessible. He concludes, that Mr. Greaves must have been deceived by the reports of others, and that he could not himself have examined this Pyramid, because he states that its sides were smooth and even; and also that Herodotus must, in like manner, have derived his information of the interior from other people, because he does not appear to have entered it. He takes notice of the rock having been cut away on the western side of the Second Pyramid, and of the temples near it and the Third; and observes, that they were constructed with the same kind of stone as that used in the Pyramids.

The Third Pyramid seemed to be constructed like the other two, but was not so high by one hundred feet, nor had it any entrance. The Fourth Pyramid was one hundred feet less than the Third, without coating or temple, and was likewise closed up. The summit of it was terminated by a single great stone, like a pedestal,

and near it were several others of less consequence.[6] Mr. Norden then again adverts to Mr. Greaves's "Pyramidographia," and states his opinion that the Pyramids of Gizeh, although not so ancient as those of Saccara, are much older than is usually supposed, because, as no inscriptions or hieroglyphics are to be found either upon them or upon the adjacent temples, they must have been erected before that mode of writing was invented; and because the Sarcophagus, the lining of the chambers in the Great Pyramid, and also the coping of the Second, were composed of granite, which was so extremely antient that it had lost all polish. He takes notice of the two dykes or causeways, and says, that the summits of the Pyramids could not have been observatories, as they were either actually covered with granite or intended to be so. He conceives, that it was not the half of the Third, but of the Fourth Pyramid, that was cased with the dark-coloured stone mentioned by ancient authors, and blames Greaves for not having personally inspected the Fourth.[7] He adds, that if the inscription, stated to have been affixed to the Third Pyramid, had really existed, some parts of it would have remained, as it would have been engraven upon granite or basalt, and as it was probably of considerable length, like those found on other buildings, where the walls are almost entirely covered with them.

KOSTAR (1738)

Visited the Pyramids, but does not describe them.

POCOCKE (1743),

Who travelled in 1743, has given a detailed account of the Pyramids and Tombs of Gizeh, with a plan of what he conjectured might have been the regular design of the various Tombs.[8] He observes, that the Pyramids were supposed to have

[6] This Pyramid must be that called by us the Fifth, namely, the most eastern of the three south of the Third.

[7] It is to be observed, that Mr. Norden has entirely overlooked the two Pyramids which are close to the one which he blames Mr. Greaves for not having noticed.

[8] The plan is of no value. The sepulchral grottoes and monuments do not appear to have been formed with any regularity, but to have followed the course of the quarries which supplied materials for the buildings.

been cased with a hard stone or marble, brought from the mountains of Arabia, and says, that there were considerable quarries near the Red Sea. He quotes, from Herodotus, the description of the causeway by which they were conveyed, although he thinks that the description was exaggerated. He remarks, that in his time the causeway was twenty feet in width, and about one thousand yards in length, that it had been built of hewn stone, and strengthened on each side by sixty-one circular buttresses, about fourteen feet diameter, and thirty feet apart; that it afterwards turned to the westward, and passed over two bridges, each of twelve arches, built on piers ten feet wide; and, subsequently, continued about one hundred yards further to the south, and ended where the ground was higher. As the country, over which the causeway was built, is low, and as the water consequently covers it, frequently for a considerable time, the work had been found useful, and had been kept in repair.[9] The author appears to have imagined that the stones were brought to the Great Pyramid by a circuitous road, considerably to the westward, on account of the steepness of the mountain opposite its northern front.

He then states, from Herodotus, that this Pyramid was built by Cheops, and that the base was a square of eight hundred feet; from Diodorus, that it was built by Chemmis or Chembis, and that the base was seven hundred Greek feet; from Strabo, that it was less than six hundred; from Greaves, that it was six hundred and ninety-three English feet; and also, that the area was a little more than eleven acres, the perpendicular height four hundred and ninety-nine feet; and that each side was an equilateral triangle. He also considers that, as Diodorus stated the area at the top to be nine feet, and Greaves thirteen feet square, some stones must have been taken away since the time of Diodorus. He himself found, that the top of the Pyramid was formed of nine stones, two of which were wanting at the angles; and that the two upper tiers were not perfect. He counted two hundred and twelve ranges of stones, from two and a half feet to four feet high, and broad in proportion. They were rather smaller towards the top. He ascended at the north-eastern angle. He believed that the Pyramids had been cased with a finer stone, and adduces in support of that opinion the authority of

[9] This description alludes to the Saracenic bridge built upon the foundations of the antient causeway.

Herodotus and of Pliny; and he says also, that they were ultimately finished from the top.[1] He then states, from Herodotus, the account of the subterraneous apartment, with which he supposes the well to communicate; and he believes that the Caliph Mahamet, who opened the Pyramid in the 827th year of the Christian era, must have had some information respecting the interior. He then concludes his account of the Great Pyramid with some remarks on the descriptions of Greaves, and on those of M. Maillet, respecting the Passages, King's Chamber, &c.

Dr. Pococke subjoins the following measurements, stating, that those taken from Greaves are marked G.; from his own observations, P.; from M. Maillet, M.; from Sicard, S.; and that the two last are in French feet.

	Feet.	Inches.	
Step to the entrance	16	0	G. P.
Height to it	38	0	G.
Width and height	3	$\frac{463}{1000}$	G.
Length	92	6	G.
Broken passage.			
Length	89	0	G.
Breadth	20	0	G.
Height to upper passage	9	0	G.
Upper passage.			
Width and height	5	0	G.
Length	110	0	G.
Landing place.			
Length	15	0	G.
Passage to Queen's Chamber.			
Width and height	3	3	M.
Length	110	0	G.
Chamber.			
Length	17	6	M.
Breadth	15	10	M.
Height of walls to roof	11	3	S.
Length of slope of roof	10	0	S.
Diameter of well	3	0	G.

[1] It is evident, from the casing-stones which have been lately discovered on the north front of the Eighth Pyramid, said to be the tomb of Cheops's daughter, and which are precisely of the same nature as those on the northern front of the Great Pyramid, that the casing-stones were hewn or chiselled to the required angle before they were put up, and that their surfaces afterwards were smoothed and polished. The Propylæum and great pillars at Karnac seem to have been worked in the same manner.

	Feet.	Inches.	
Ascent into the upper gallery	12	0	M.
Breadth of passage	3	$\frac{435}{1000}$	G.
Height of ramps	1	$\frac{111}{1000}$	
Width	1	$\frac{117}{1000}$	
Whole breadth of gallery	6	$\frac{810}{1000}$	G.
Holes in the ramp.			
Length	1	1	P.
Breadth	0	7	P.
Depth	0	6	S.
Distance from one another	3	9	P.
Twenty-eight of these holes on each side.			
Height of gallery	26	0	G.
Height of two tiers of stone, to the stone that sets in	5	3	P.
Each stone sets out	0	3	P.
The seven tiers that set out, each in depth about	2	6	P.
Landing-place of the same width.			
Length	5	6	P.
Height	10	0	G.
Passage.			
Length	8	0	P.
Width	4	0	P.
Height	4	0	P.
Second passage.			
Width	4	6	P.
Length	6	9	P.
Next passage.			
Width	4	0	P.
Length	8	3	P.
Great room.			
Length	34	$\frac{380}{1000}$	G.
Width	17	$\frac{190}{1000}$	G.
Height	19	6	G.
Nine stones cover the room, the two next the walls.			
Width	2	0	M.
The rest, wide	4	0	M.
Six tiers of stones, of equal breadth, compose the sides.			
The tomb.			
Length	7	$3\frac{1}{2}$	G.
Width	3	$3\frac{3}{4}$	G.
Depth	3	$3\frac{3}{4}$	G.
Inside.—Length	6	$\frac{488}{1000}$	G.
Width	2	$\frac{218}{1000}$	G.
Depth	2	$\frac{869}{1000}$	G.

He then describes the levelled area, near the Second Pyramid, as a fosse, ninety feet wide and thirty feet deep, on the northern and western sides; and also the chambers cut in the rock. He considers that a range of holes, about ten feet high, near the doors of these apartments, were for the purpose of inserting the ends of slabs, in order to form a portico;[2] and that a row, about ten feet higher, above these, may have been for a similar portico to a higher range of excavated apartments. He then quotes various authorities, antient and modern, as to the size and formation of the Second Pyramid; and he conceives that there is a mistake in the text, where Strabo is supposed to say that the heights of the two Pyramids were a little more than the lengths of their bases, that μειζων is inscribed for μειων, and that the reading should be "a little less." Notwithstanding its dilapidated appearance, he thinks that the whole of this Pyramid had been cased. He mentions the excavations in the Northern Front; and says, that Herodotus stated that the lower ranges of stone were of granite; and Diodorus, that there were steps in the side of the Pyramid, which he conceives might be in the middle of one of its faces. He observed that, on the northern and eastern sides, the casing was entire for forty or fifty feet from the top; and that, for nearly one hundred feet lower, the stones seemed to be set further out. He mentions some grottoes, with hieroglyphics, towards the south-eastern angle of this Pyramid,[3] and the ruins of the temples to the eastward of the Second and Third. He then adverts to the Sphinx, and to a Pyramid W. N. W. of the Sphinx,[4] which he supposes to be that of the daughter of Cheops. He then describes the mound, or raised ascent to the magnificent ruins of the temple, near the Third Pyramid, which, he says, has been one hundred and sixty feet deep, and one hundred and eighty in width, and the stones were sixteen or seventeen feet long, and six in breadth and in height. In the course of his remarks upon the Third Pyramid (said to have been built by Mycerinus), he quotes from Herodotus, that its square was three hundred feet, and that it was cased half way up with

[2] These holes are generally supposed to be either natural fissures, or the terminations of the tiers of the stones which had been quarried. There are not any vestiges of a higher range of apartments at present visible.

[3] This appears to be a mistake for S.W.

[4] This appears to be the building mentioned in Mr. Williams's map as the Temple of Osiris.

Ethiopian stone; and from Diodorus Siculus, that it was so cased for fifteen tiers, each of them five feet deep; and he found by admeasurement that these accounts were tolerably correct. He then adverts to the assertion of Strabo, that on account of the *revêtement*, this Pyramid cost as much as the others. He adds that a considerable part of these granite blocks are yet to be seen scattered near the building, some of them above five feet in height. The three smaller Pyramids, to the south of the Third, he concludes to be those mentioned by Diodorus as the tombs of the Queens. The two to the westward were eighty-seven feet square, and built of three degrees, ten feet broad—each degree consisting of three tiers of stones, four or five feet deep, that set out about one foot. The eastern of these three Pyramids was called the Fourth, and was one hundred feet square. The origin of all these buildings was, in his opinion, the practice of covering small eminences with masonry, as funeral monuments; and he supposes that all the Pyramids have been built round masses of rock; that the Great Pyramid was built over two rocky eminences —the present entrance having been placed on the top of one, and the room containing the Tomb (the King's Chamber) on the top of another; and that the passages and lower chambers "might have been cut in the side of the hill, though at some distance from the outside of it."

DR. PERRY (1743)

Says that the Pyramids are very numerous; that there are above twenty large ones, and that the two biggest at Gizeh were those generally visited; that they were situated about six miles westward from the river, and were called the Pyramids of Memphis, but that it was not known by whom, or when, they were built, or for what purpose, which appeared to him extraordinary, considering their enormous magnitude, and the regular chronological account of every great occurrence supposed to have been kept by the antient Egyptians. He conceives, however, that even now some account of them may yet be discovered in the hieroglyphic character. He remarks that an equal uncertainty exists as to the height and base of the Great Pyramid,[5] that according to the

[5] This may be owing to the dilapidated state of the building, and to the base having been covered with sand and rubbish. The building was, no doubt, equilateral and rectangular.

opinion of most persons, the different sides are of different dimensions, and ascend at different angles; that one side has an angle of 40 degrees, another of 37½, a third of 35, and a fourth of 42½; that if this be true, the apex could not be vertical to the centre of the base: but, after all, he is of opinion that the great object of inquiry is to find out at what time, by whom, and for what purpose, these vast structures were erected. He inclines to Dr. Shaw's opinion, and cannot suppose that they were built from mere ostentation, or for the employment of the people, or that they were designed only for sepulchral monuments; he is of opinion, from an attentive consideration of the interior construction of the Great Pyramid (the only one then open), and also from what might, by analogy, be supposed to be concealed in the other Pyramids, that they were likewise intended for the performance of religious rites and mysteries, by which their sanctity as tombs would be greatly enhanced. He conceives, therefore, that Dr. Shaw's account is the best, and refers generally to that author, subjoining, at the same time, a view and also a section of the Great Pyramid. He also imagines that none of these buildings were ever entirely finished; for the great one, instead of terminating in an apex, ends in a space of fifteen feet square. The Second, he thinks, is higher than the others; and the Third, he says, is a good deal less; and he adds, that the superior height of the Second is owing to its situation, and to the preservation of the upper part of it. He measured the base of the Great Pyramid on the southern and western sides, and found the southern to be seven hundred and eighty-nine and a quarter feet, and the western seven hundred and eighty; that its perpendicular height was about six hundred and eighty-seven feet; and the exterior angle of thirty degrees: he is aware that this account does not agree with that of Mr. Greawes, but conceives that that gentleman was mistaken in his admeasurements, and goes into a calculation to prove it. He observes that the antient accounts of these monuments are by no means satisfactory; that the founders of the three Pyramids are generally supposed to have been Cheops, Cephrenes, and Mycerinus; but that, according to Dr. Shaw, the Great Pyramid was built by Seuphis, the Second by Cheops' daughter, and the Third by Nitocris; and that others say, that the two largest were built by the Shepherd Philition, and the Third by Rhodope; and he adds, that Ibn Abd el Hokm (an Arabian historian) asserted that the Great Pyramid was opened by Almamon, Caliph of Babylon, in the ninth century. Dr. Perry then quotes,

from this author, the account, so often repeated, of the body and jewels found in a tomb, and the assertion that the Pyramids were built by Saurid Eben Salhook, King of Egypt, three hundred years before the Deluge. He was certain, however, that the Great Pyramid was not first opened by Almamon, since it must have been open in the time of Pliny,[6] who describes the well, and who, therefore, must have seen it himself, or have received his information from some person who had. He adds that it was probably opened at a very early period.

He then gives the following dimensions, and a plan of the Great Pyramid :—

	Feet.	Inches.
Square of base	780	0
Perpendicular height	690	0
Additional building required to form the apex	15	0
Entrance, width of	3	6
Height	4	0
Length	90	0
Second passage, length	107	0
Horizontal passage, length	140	0
Width	3	6
Height	4	0
Lower Chamber, length	18	0
Width	16	0
Height	18	0
Great Passage, length	150	0
Width	6	0
Height	24	0
Passage to the Upper Chamber, length	22	0
Antechamber, width	6	0
Height	11	0
Upper Chamber, length	24	0
Width	17	0
Height	19	0
Length of Sarcophagus	7	0
Height	3	0
Width	2	6

The Sarcophagus and the whole of the Chamber is of granite; the roof is composed of nine stones; the Pyramid fronts the four cardinal points, and is about twelve miles south-west of Cairo.

[6] This observation would equally apply to Herodotus.

MR. HASSELGUIST (1750)

Visited Gizeh, and attempted to ascend the Great Pyramid, on the western side, near the north-western angle, on the 13th of July, but was prevented attaining the summit, as he says, by the heat; he also entered it, and visited the other Pyramids, but does not offer any detail respecting them.

M. FOURMONT (1755),

In his work on the "Plains of Memphis," enters into considerable detail respecting the Pyramids of Gizeh. He derives, as many others have done, the word "pyramid" from πυρ, fire, on account of the pointed form, in the shape of a flame.[7] He says that there are above twenty of different sizes at Gizeh, Saccara, and Dashoor, but that the three largest are to the north. Two in the Faiyoum are also of considerable dimensions, and others are to be found in the Lybian desert.[8] He quotes various authors as to their reputed builders and dimensions; and he observes that Lord Charlemont ascertained that the perpendicular height of the Great Pyramid did not exceed four hundred and forty-four feet. He says that the two hundred and seven, or two hundred and eight, ranges of stones, by which it is ascended, are from three to four feet high, and that they recede gradually towards the top, at the rate of about three feet in each range.[9] The Pyramid was most accessible on the southern side, or at the north-eastern angle, as the other parts were much dilapidated. After referring to antient authorities respecting the interior, he says, that the entrance, about three feet square, was on the 16th range, and nearly in the middle

[7] It is to be observed that πυρ is considered to be Pelasgian, and not purely Greek.

[8] Neither M. Fourmont, nor any other author, excepting Mr. Wilkinson, has mentioned Abou Reche.

[9] I think that "pierres" should be inserted for "pieds,"—"qui devoit être composé de neuf *pieds*, mais il y en a deux qui manquent aux coins." There must be a mistake in the printing "pieds" for "pierres." There appears, also, to be several errors in the whole description; so that in some instances I have given the author's words.

of the northern side; and that he went to it over a mound of rubbish. At the end of the inclined passage, about one hundred feet in length, a narrow excavation opened into a sort of vestibule, containing a mass of rock about four feet high, on the top of which an ascending passage was entered. It was five feet long, and about five feet square; the pavement was of white marble, but the top and sides of a softer stone. At the end of it two other passages branched off, that to the right went to the pit mentioned by Pliny, which was filled up with rubbish to within twenty feet of the top. M. Fourmont went down, and found at the bottom a passage, into which he could only penetrate seven or eight feet, for want of air. Upon leaving the well he proceeded by the passage to the left, which was horizontal, and of the same dimensions as the former, and one hundred and ten feet in length, to a chamber half full of rubbish, and extremely offensive from a smell of dead bodies. It was about twenty feet long, seventeen wide, and not quite fifteen high; the walls were covered with chalk, the roof angular, and formed of large stones. Having returned from this passage, he mounted another above it, "et on entre dans l'autre galerie à la gauche, séparée de la première galerie par la muraille dans laquelle est l'entrée qui mène au passage, dont nous venons de faire mention." This gallery was very magnificent both in workmanship and in materials, and ascended, at an angle of twenty-six degrees, to the distance of one hundred and fifty-four feet from the pit. There were ramps on each side, and quadrangular holes over them, and it was constructed with slabs of marble so finely put together, that the joints could scarcely be perceived; and the walls became gradually narrower towards the top by the overlapping of the courses of masonry. He says that the entrance into the King's Chamber was formed of Thebaic marble; and observes that the groovings for the portcullis were the only sculpture or carving to be seen in the whole building. A square passage, of the same size as the others, and nine feet in length, entered the northern side of a handsome chamber, situated at the distance of twenty-four feet from the end of the Great Gallery, and exactly in the centre of the Pyramid. The walls were composed of six equal ranges, and the roof of nine stones; the whole of Thebaic marble. The length of the southern side, at the top of the lowest range of stone, was thirty-four English feet, of the western side, seventeen feet; and the height was nineteen feet six inches. The sarcophagus was of one block of Thebaic marble, in the form of an altar; upon being struck it was sonorous, and had

not any inscription. Its exterior length was seven feet three inches and a half, and its depth three feet three inches and three quarters. On the northern and southern sides of the chamber he observed two openings opposite to each other, and he says that the echo was very extraordinary.

After several remarks and quotations relative to the construction of the pyramids and causeways, he alludes particularly to the Second Pyramid, which had no entrance, was built with smaller stones, and not in regular steps or courses, like the Great one, "et par-tout unis; cet ouvrage, hormis le côté qui est opposé au midi, paroît fort entier, et sans aucune brèche.[1] Au nord et à l'occident de cette Deuxième Pyramide se voyent deux pièces d'architecture très-magnifiques, et très-bien travaillées d'environ trente pieds de profondeur, et de plus de 1400 en longueur, taillées perpendiculairement dans le roc. Ces bâtimens sont parallèles aux deux côtés de la Pyramide, que nous venons d'indiquer, à une distance convenable, et forment un angle droit en se joignant, ce qui fait un très-bel effet. On y entre par des ouvertures quarrées faites dans le roc, dont plusieurs sont de la même grandeur que les passages étroits de la même Pyramide, et dont chacun conduit dans une chambre quarrée, à laquelle le rocher naturel sert de voûte. Dans la plupart de ces chambres il y a un passage, par où l'on entre dans quelqu'autre appartement, mais ces passages sont obscurs, et pleins des ruines. Au côté septentrional par dehors on voit une ligne gravée en caractères sacrés."[2]

M. Fourmont then observes, that the Third Pyramid is situated on elevated ground at a little distance from the Second, but is much smaller than the other two, and of a lighter colour, which he considers the effect of contrast. He then notices the temples near the Second and Third Pyramids, and observes that the one near the Third was most perfect, and says that in it, "on trouve quatre piliers qui, sans doute, soutenoient une voûte, dont l'idole étoit couverte, et on tournoit autour de ces piliers comme par une espèce de collatérale."[3] The blocks, with which this

[1] It is remarkable that the surface of this Pyramid, which at present is more dilapidated than those of the others, should be represented by several travellers to have been almost perfect.

[2] This passage is inserted on account of the singular description it contains of the excavations in the low cliff on the western side of the Second Pyramid, where there is not the slightest appearance of a building.

[3] When this temple was cleared out in 1837, two square places, apparently for pedestals, were found in the floor of the adytum.

temple is built, he justly remarks, are very fine, being twenty-seven feet long, eighteen broad, and four thick; and he concludes that the Pyramid was covered with granite, as several fragments, to which cement adhered, were to be observed near it. He afterwards adverts to the other ruins near the Pyramids, and then proceeds to describe those at Saccara.

M. NIEBUHR (1761)

Appears to have been greatly annoyed by the Bedouins in both his visits to Gizeh; in the second he was accompanied by several persons, and, amongst others, by M. Meynard, but the party was then under great alarm on account of the Arabs. As far as he could judge, the Pyramids fronted the cardinal points. The rock, upon which they were built, was visible at the angles. He says that he found the height of the Great Pyramid much less than it was generally supposed to be; at the same time, he observes that, according to M. Fourmont's account, it was stated by Lord Charlemont to be four hundred and forty-four feet. He does not agree with Lucas that the Pyramids had been faced over with cement, as the casing on the Second Pyramid was of stone; and upon examination he found that it had been finished from the top, by smoothing off the projecting angles of the blocks. He remarks, that the Pyramids are likely to last for many years, and that as stones are more easily obtained from the quarries in the Mokattam, there is less inducement to destroy them on account of their materials. He agrees with the antient historians, that the Third Pyramid was partially covered with granite. He never heard that inscriptions had been found upon the stones that lie scattered around, nor did he find any upon the buildings, which indeed was not likely, as the surfaces had been nearly destroyed He searched in vain for the chamber above the King's, in the Great Pyramid; and he remarks that M. Mallet was equally unsuccessful, although, by his own account, he had visited that edifice more than forty times.[4] According to the information which he received from M. Meynard, the chamber is over that in which

[4] It is extraordinary that the entrance into Davison's Chamber was not seen, as it is of considerable size, and not more than twenty-six feet above the entrance into the King's Chamber. M. Meynard, although of the party, did not, probably, enter the Pyramid, but he must have known it, as he gave a description of its size.

the Sarcophagus is placed, and of the same size, but lower; and the entrance to it is about thirty feet above the floor of the passage leading to the King's Chamber. He observed the petrefactions in the masonry of the Pyramids, and also in the adjacent rock.

Dimensions by M. Niebuhr.

	Feet.
Elevation of the base of the Great Pyramid above the Nile	200
Distance between the nearest angles of the Great and of the Second Pyramids - - -	665
Elevation of base of the Second Pyramid above that of the Great - - - - -	34
Base of Second Pyramid - - -	705
Base of western side of Great Pyramid - -	710
Inclined height of south-western angle of the Great Pyramid	500
Height of Great Pyramid - - -	440

MR. DAVISON (1763).

An account of this gentleman's operations is contained in the memoirs of the Rev. Robert Walpole, and has been alluded to at some length in the nineteenth volume of the "Quarterly Review." It appears that Mr. Davison took the height of the Great Pyramid of Gizeh first, by measuring the ranges of stone, and, subsequently, with a theodolite, and that both accounts agreed. He found the number of ranges to be two hundred and six; the perpendicular height of the Pyramid four hundred and sixty feet eleven inches; the base seven hundred and forty-six feet; and that the platform at the top was composed of six stones. The entrance, in the northern front, was upon the sixteenth range from the base, and three hundred and fifty feet from the north-eastern, and three hundred and ninety-six feet from the north-western angle; and the base was, on the 22d of October, one hundred and sixty-three feet above the level of the Nile. He afterwards measured the interior of the Pyramid. He then examined the two oblong excavations to the eastward of it; the second, the third, and two ruined pyramids eastward of them; another built upon a square rock, and those to the southward of the third.[5]

[5] The two ruined Pyramids eastward of the Second and Third, and the one on a square rock, are no longer to be distinguished; it is just possible, that by the two former, Mr. Davison alluded to the ruins of the temples.

Mr. Davison's account of the examination of the well is contained in a letter, dated 23d November, 1764, of which the following is the substance. A lantern having been lowered, he went down, by the help of a rope, to the bottom of the first shaft, twenty-two feet deep; after which, he descended, perpendicularly, to the depth of five feet, when he came to the second shaft, the mouth of which was stopped up by a large stone, so as barely to allow of a passage. Upon letting down the lantern still further, he perceived that the shaft was oblique, and at the depth of twenty-nine feet he came to a grotto fifteen feet long, four or five feet wide, and about six feet in height. Thence he proceeded ninety-nine feet in a shaft, which at first was inclined, but became, towards the bottom, almost perpendicular. When at the total depth of one hundred and fifty-five feet, the passage was blocked up with sand and rubbish; and he found the remains of a ladder that had belonged to Mr. Wood,[6] who had, sixteen years before, got down as far as the grotto. The lower part of the shaft was so full of bats, that it was extremely difficult to preserve a light.

On the 8th of July, 1765, Mr. Davison went with M. Cousigny (consul at Rosetta), M. Meynard (a French merchant), and other persons, to the Great Pyramid, to explore an opening in the great gallery, which he had seen on a former visit, and which led to the chamber eventually called by his name.[7] In proceeding there for this purpose, he incidentally observed, upon arriving at the forced junction between the descending and ascending passages, that the entrance passage did not terminate at this point, but went on in a right line into the Pyramid. The rains that had fallen during the winter had washed away part of the sand, and made this circumstance more apparent. He postponed, however, the immediate investigation of this subject, and proceeded to the original object of inquiry in the great gallery. He ascended, by the help of ladders, to the entrance, which was

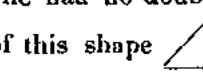
[6] The same person who went to Palmyra. I cannot meet with any account of his travels in Egypt.

[7] The "Quarterly Review" remarks, that this chamber had only been adverted to by Niebuhr and Bruce. Thevenot mentions an aperture, said to have been in the Queen's Chamber, which he could not find, and which required a ladder, and may have been a mistake for this—the description would, indeed, also apply to the Pyramid at Dashour. Niebuhr was informed of the passage by M. Meynard, who accompanied him to Gizeh, in 1761, and described the chamber to him, and had possibly, therefore, been in it, and probably gave an account of it to Mr. Davison.

a square of two feet four inches. On the eastern side of the gallery, the passage turned to the south, and was so full of dirt and bats' dung, that it was with great difficulty he arrived at the chamber. M. Meynard came into the passage near the door, but being a good deal troubled with the dirt and want of air, did not proceed further. Mr. Davison perceived that the chamber was directly above the King's, and was floored with the reverse of the granite blocks that formed the ceiling of that apartment. It was four feet longer than the chamber below, which was covered in by seven entire blocks, and only by the half of those next the sides, whilst the floor of this chamber was composed of the whole of the nine. The breadth of it was the same as that of the King's. The ceiling consisted of eight slabs of polished granite.[8]

Mr. Davison then examined the excavation of the niche in the Queen's Chamber, but without making any discovery.

He afterwards returned to the supposed end of the entrance passage, which has been already mentioned, and found that it proceeded into the building.[9] He entered it for the length of one hundred and thirty-one feet, and says, "the descent, except the first four feet and a half, is cut in the rock; at the end of one hundred and thirty-one feet, I found it so filled up with earth, that there was no possibility of proceeding."

Mr. Davison then copied the hieroglyphics in the cliffs opposite the north-western angle of the Second Pyramid. In one of his letters to Professor White, he states that the Great Pyramid was the only one open at Gizeh; and in answer to a letter from that person, he writes from Lisbon, 10th October, 1779, that he had not perceived any hieroglyphics upon any of the stones belonging to the Pyramids, but that he had not ascended to the top of the Second. He adds, that although almost all the casing of the two larger Pyramids at Gizeh had been removed, yet that, from what remained upon the Second, he had no doubt that both had been covered over with stones of this shape  so as to form a smooth surface from top to bottom. With respect to the Third,

[8] It does not appear that any thing was found in it, nor are any quarry-marks mentioned.

[9] This passage was afterwards cleared out to the bottom by M. Caviglia, who, in doing so, unexpectedly opened the well, and also discovered the subterraneous apartment.

he had observed some of the granite key-stones remaining upon it; but he had not found any inscription upon the casing that remained upon the Pyramids at Dashoor, or at Saccara; and the only hieroglyphics he had seen at Gizeh, excepting on the tombs, were those inscribed on the rocks, facing the northern front of the Second Pyramid. He adds, that some Latin verses are said to have been observed upon them by Bolderstein, who had many years before visited Egypt, and gives the following as a specimen:—

"Vidi Pyramides sine te, dulcissime frater,
Et tibi quod potui lacrymas hic mœsta profudi,
Et nostri memorem luctus hic sculpo querelam."

D'ANVILLE (1766)

MENTIONS only the distance they are from Cairo, and quotes many authors in that respect.

BRUCE (1768)

VISITED the Pyramids of Gizeh, and observes that plans of them had been published two years previously, from drawings by Mr. Davison, who had discovered the small chamber in the Great Pyramid, which is called by his name: a discovery in which, Mr. Bruce observes, there is nothing extraordinary, excepting its having escaped observation for so many ages. He also considers it surprising that there should have "been a constant belief that the stones composing these Pyramids had been brought from the Lybian[1] mountains; though any one who will take the pains to remove the sand will find the solid rock there hewn into steps;

[1] The author probably meant "Arabian."

and in the roof of the large chamber, where the Sarcophagus stands, as also in the top of the roof of the gallery, as you go up into that chamber, you see large fragments of the rock, affording unanswerable proof that the Pyramids were once huge rocks, standing where they now are; that some of them, the most proper from their form, were chosen for the body of the Pyramid, and the others hewn into steps, and to serve for the superstructure and the exterior parts of them."

MONSIEUR L'ABBÉ DE BINOS (1777),

In his letters, addressed to Madame Elizabeth of France, mentions that the Pyramids of Egypt are supposed by some to be the tombs of the antient kings; that they are called by others the mountains of Pharaoh; that the poets have described them, as rocks heaped one upon the other by the Titans, in order to scale Olympus; that the Great Pyramid was the only one that had been opened; that those who have measured them, asserted that the base of the Third was three hundred feet; of the Second, five hundred feet; and of the larger, six hundred feet; that he ascended to the top of the Great Pyramid, by one of the angles, and found that those buildings were distant from one another about twenty paces; and that the Sphinx was behind them, and not more than twenty feet above the surface of the sand. He states that the entrance into the Great Pyramid was about fifteen feet high above the rubbish, and probably three times that height above the base. The entrance was a square of four palms. The descending passage, about eighty feet long, was full of rubbish; and, at about one-third from the bottom, he found, on the right hand, a large opening, in which a mass of rock was to be surmounted in order to arrive at an ascending passage, about ninety-six feet in length and three feet four inches square. At the upper end of this communication he saw, on the right hand, a very deep pit, which formerly contained a secret chamber; and on a level with the mouth of the pit, a passage, one hundred and thirteen feet long, and three feet square, conducted to a chamber, eighteen feet long, sixteen wide, and twenty high. Having reached this chamber, he returned to the end of the ascending gallery, near the well, where he perceived a perpendicular ascent to another ascending passage, one hundred and

thirty-six feet long, six feet wide, and twenty-four feet high, with ramps on each side; and at the upper end a platform, whence a corridor composed of blocks of granite, twenty-one feet long, three feet eight inches wide, and three feet four inches high, led to the sepulchral apartment. This chamber was thirty-three feet long, sixteen feet wide, and sixteen feet high; had a flat ceiling, composed of six large stones; and contained a tomb of granite, very like that which the Abbé had seen in the church of St. Athanasius, at Alexandria. It was hewn out of a single stone, and was seven feet long, three feet wide, and three feet high, and he found it entirely empty. In returning from this chamber, a passage was visible, which led to a small apartment, apparently the highest in the Pyramid.[3] The Abbé then ascended the Pyramid, and found the top of it about twelve feet square; and upon it he observed six large stones, arranged in the form of an L, which he was told signified a hieroglyphic.

MONSIEUR SAVARY (1777),

Who travelled in 1777, visited the interior of the Great Pyramid, and afterwards ascended to the top, by the usual path at the north-eastern angle. He gives the dimensions of the Great Pyramid from the following authors:—

	Height.	Base.
Herodotus	800 feet.	800 feet.
Strabo	625 —	600 —
Diodorus	600 —	700 —
Pliny	—	708 —
Le Brun	616 —	704 —
Prosper Alpinus	625 —	750 —
Thevenot	520 —	682 —
Niebuhr	440 —	710 —
Greaves	444 —	648 —

Number of Ranges of Stone.

Greaves	207
Maillet	208
Albert Lewinstein	260
Pococke	212
Belon	250
Thevenot	208

[3] This must have been Davison's Chamber.

He conceives that Greaves and Niebuhr are mistaken in the height of the Pyramid. He says, that the ranges of stone are from two feet to four feet high, the larger at the bottom; and that Greaves's account should be five hundred and seventeen feet. He observes, that Greaves, Maillet, Thevenot, and Pococke, appear all to have ascended and made their observations at the north-eastern angle; that Albert Lewinstein, Belon, and Prosper Alpinus, ascended at the south-eastern or south-western angles; and, as these travellers give a greater number of ranges of stone, he concludes that that part of the Pyramid was not so much covered by the desert sands;[a] and says, that their accounts agree better with Diodorus and with Strabo. He considers that the Pyramid is at least six hundred feet high; and that, as Pliny has stated that the entrance was in the exact centre of its northern side, and as it is now only one hundred feet high, the rubbish and sand must have formed a hill of two hundred feet above the base.[b] He remarks also that, according to Pliny, the building covers a space of eight acres; and quotes from that author, Herodotus, and Diodorus Siculus, that the Pyramid was cased with one uniform surface; and from Strabo, that it had been closed up. He agrees entirely with the opinions of M. Maillet, which he inserts at great length; and he mentions that, according to some Arabian authors, the Pyramid was opened by the Caliph Mahmoud at the beginning of the eighth century; according to others, that it was opened by the Caliph Haroun-el-Raschid (who, he observes, sent a water-clock to Charlemagne, the first that was ever seen in France). He believes that the Pyramid was a tomb, notwithstanding the opinions of M. Pauw.

The Second Pyramid, built by Chephren, brother to Chemmis, appeared almost as high as the first, which coincided with the accounts of Strabo and of Diodorus Siculus; but its base was smaller. He observes, that the revetment of this Pyramid was entirely destroyed to within sixty feet of the top, and he concludes that that part was left merely on account of the difficulty of its removal. M. Savary does not conceive that this Pyramid had ever been entered. To the east of these two he saw another, similar in structure, but of much less dimensions. The base of it, however, was about three hundred feet square. It was built by

[a] The accumulations of rubbish and sand are at present higher on the southern side.

[b] Pliny does not appear to have mentioned the entrance.

Mycerinus, who died before it was half finished, and was composed of granite from Assouan. A considerable part of the revetment was scattered around it. The king's name, according to Diodorus Siculus, was inscribed on the northern side; but that inscription, as well as the writings mentioned by Herodotus on the revetment of the Great Pyramid, had been destroyed, and taken away with the casing-stones. He then mentions the tradition, that the Third Pyramid was built by Rhodope; and says, that the Arabs call it Heroun-el-Bent (the Monument of the Girl). He saw near it the ruins of three other small Pyramids, which, according to Diodorus, were the tombs of the queens of the kings buried in the three larger Pyramids.

SONNINI (1780)

Observes, that the Great Pyramid was about five hundred feet in perpendicular, and seven hundred in inclined height; that the entrance was open, but that he had not sufficient time to examine it with accuracy; that the original purpose of these vast buildings had not been satisfactorily ascertained, but he hoped that the invasion of the French army would lead to more exact conclusions.[6]

M. VOLNEY (1783)

Expresses his surprise that the dimensions of the Pyramids have not been accurately measured. He states, that they were

[6] As these travels were not published till some years after the French Revolution, this passage was most probably an interpolation. With these details, two plans are published, which were intrusted to M. Sonnini by the Duke de Chaulnes, with certain manuscripts, in order that several parts in the interior of the Great Pyramid might be particularly examined. Not having been able to effect these inquiries, he returned the drawings, together with the manuscripts, to which the capital letters in them refer; but he published the drawings, he says, because he had copied them, although he did not think himself at liberty to publish the manuscript. The plans, therefore, are unexplained. They relate to the antechambers and portcullis belonging to the King's Chamber in the Great Pyramid, and are said to have been drawn by Mr. Davison, and have been particularly mentioned in the nineteenth volume of the "Quarterly Review."

erected upon a ledge of rocks, not more than fifty feet above the adjacent plain, which had furnished the materials of which they are built, consisting of a white calcareous stone, known in France by the name of "Rairie." He observes, that if the Pyramids had been intended for observatories, they would most probably have been built upon the higher range of the Mokattam. He also remarks, that an elevated observatory is useless in a flat country, and that the ascents of many of these monuments were impracticable; and he does not think it likely that so many similar buildings would have been constructed so near each other for the same purpose. From the size of the sarcophagus in the Great Pyramid, and from the rocks and adjoining grounds having been evidently used as a cemetery, he is of opinion that they are tombs, and adduces the etymology of the word Pyramid as an additional argument. He found that the King's Chamber was thirteen paces long, eleven wide, and the same in height. He says, besides the Great Pyramid at Gizeh, one at Saccara had been opened, and that an unsuccessful attempt had been also made by one of the Beys on the northern front of the Third Pyramid at the former place.[7]

Monumens Egyptiens, par BOUCHARD *et* GRAVIER (1791).

IN this collection, which, as far as the monuments of Gizeh are concerned, is of no sort of value, there is a curious representation of a Pyramid (in Plate XXII.) called "Monument Sépulcral," with various entrances and temples. Where or to whom it was erected does not appear. It seems to have been restored. Plate XXIII., No. 1, is a Pyramid of five stages, said to be situated northward of Saccara. No. 2 is a Pyramid of four stages, but its situation is not mentioned. Plate XXIV. represents the Pyramids of Mœris and of his Queen, said to have been built in the lake, with a temple between them, and staircases, entrances, &c. Plate XXV. is a Pyramid of Ptolemy Euergetes, the ruins of which are stated to be near Thebes. It has the addition of a pedestal, sphinxes, &c. Plate XXVI., the Great Pyramid of Gizeh, the base of which is said to be about eight hundred feet.

[7] He adds also, that, about 1780, one hundred manuscripts, in unknown characters, were dug up near Damietta, and burnt by order of the Pacha of Cairo.

Plate XXVII., the interior of the Great Pyramid. The King's Chamber is placed in the middle of the structure, and the Queen's under it, with a flat roof. The King's Chamber is said to be composed of granite, and the roof of seven stones, the Sarcophagus to have been made of marble; and it is added that fragments of terra cotta were found near it. Plate XXVIII. is a general view of the three Pyramids — that of Chemmis, of Chephren, and of Rhodope or of Mycerinus.

As I before stated, Nos. 26, 27, and 28, are not worthy of notice.

MR. BROWNE (1792–1798)

Gives the following account of the dimensions of the King's Chamber:—

	Feet.	Inches.
Length	34	5
Breadth	17	2
Sarcophagus, Length	7	8
Breadth	3	2
Depth within	2	10½
Thickness	0	6

The Galleries and Great Chamber are situated due north and south, allowing for the variation of the needle.

The first passage descending	105	2¾
Small chamber, Length	18	9
Breadth	17	1
Antechamber, length	7	5
Main gallery, upper part	150	0
lower part	148	0
Passage to inferior chamber	109	0

He adds, that the King's Chamber and Sarcophagus are formed of granite, but that the Pyramids are built of a soft white freestone, replete with shells, like the rock on which they are placed.

M. DENON (1799),

Who was a member of the Institute in Egypt in 1779, states, that Cheops was the fourth king in succession after Sesostris, and that he built the Great Pyramid in emulation of the mausolea of his

predecessors, particularly of that of Rhampsinitus. He conjectures that Cheops assumed the surname of Chemmis, given to him by Diodorus, from the city of Chemmis, now Eckmim. He takes notice of the excavations to the eastward of the Great Pyramid, and also of the three small Pyramids near them, in which he could not discover any cavity or entrance. He then mentions the ruined buildings on the southern side, and conceives that one of them was the tomb of Cheops's daughter. The Second Pyramid, he says, was built by Chephren (brother to Cheops), who he concludes, had not sufficient money to complete the revêtment in marble. The base appeared to be smaller than that of the Great one, although the height was nearly the same, and it was built upon a more elevated situation. He conceives from the account of the subterranean excavation mentioned by Herodotus, that the Great Pyramid was surrounded by a canal, and that the excavations on the western side formed part of it.[8] He states, that the Second and the other Pyramids were much dilapidated; that, although the ascent of the Second is extremely difficult, some of his party succeeded with the assistance of the Arabs, in climbing up to the bottom of the casing on the western side, which he considers to be forty feet from the top, in order to ascertain of what it was composed.[9] The lower part of this Pyramid he imagines to have been built upon a square base or pedestal. He also states, upon the authority of Diodorus Siculus, that, after all, neither Cheops nor Chephren were actually buried in these tombs. He objects to the account of M. Maillet, particularly as to the air-channels, as he could not find any traces of them on the exterior of the Great Pyramid. Respecting the Third Pyramid, he remarks, it was built by Mycerinus, and that, like the Second, it had the addition of a temple on the eastern side, and that the blocks of granite with which it had been cased were scattered around it; that the rock had been levelled on the western side, in the same manner as it had been near the Second Pyramid, and that chambers had been excavated in it.[1] He then takes notice of the three Pyramids to the south of it, the Sphinx, the Dykes, and the other remains of antiquity, and

[8] They are oblong pits of no great depth, and are supposed to have contained the mortar for building the Pyramids.

[9] "On a tiré des fragmens de ce revêtement; il ne reste plus de doute sur la matière dont il est formé." He afterwards says, that this material was plaster.

[1] No chambers are to be seen at present, nor any place in which they could have been formed.

descants at some length on the chronology of Egypt; and in doing so, he adverts to the tradition that the Third Pyramid was built by Rhodope.

M. Denon then gives a table of the height of the several ranges of stone of which the Great Pyramid is composed, by which it appears that they are two hundred and eight in number, and that the height of the edifice is four hundred and forty-eight feet two inches. He observes, that the stone abounds with petrifactions, and that pieces of mother of pearl, and of shells, are frequently found near the bases of the different Pyramids.[2] The base of the Great Pyramid is stated to be seven hundred and twenty-eight feet; the length of the inclined passage one hundred and twelve feet, and the width three feet four inches. He found that a forced entrance had been made into the ascending passage, in order to avoid the granite blocks with which the lower part of it was closed; this communication was seventy-seven feet in length, and appeared, from the ruined state of its sides, to have been filled up with masonry; the horizontal passage leading to the Queen's Chamber was one hundred and eighteen feet long, and was of the same width as the others; the length of the Queen's Chamber was eighteen feet, its width sixteen, and its roof was inclined like that of the great gallery.[3] The chamber contained a quantity of stones and rubbish, taken out of an excavation that had been made in it before; but, as the quantity of rubbish is not equal to the excavation, M. Denon conjectures, that a cavity had been discovered in the masonry. Returning from the horizontal passage he ascended the great gallery, which was one hundred and twenty-three feet eleven inches in length, about twenty-five feet high, six feet six inches wide, and had a ramp on each side twenty-eight inches high. He then describes the projections of the corners in the walls and the construction of the roof. From this gallery he entered the King's Chamber by an anteroom, ten feet in height, which appeared to have been closed up with blocks of stone. The length of the chamber was thirty-two feet, the breadth sixteen, and the height eighteen feet ten inches; the roof was flat, and composed of nine stones of

[2] These appear to have been brought there with earth, and the other materials with which the cement was composed.

[3] The roof of the Great Gallery is not inclined, but narrows towards the top by the approximation of the courses that form the sides, which are all of them perpendicular.

equal width, excepting that parts of the two next the walls were hidden by the masonry. He could not discover of what material the Sarcophagus was composed; it was seven feet long, four broad, and three feet two inches high, and had not any lid. Several observations, taken with the compass, are then added, but he supposes that it does not traverse freely in the interior of the Pyramid. He says, that the mouth of the northern air-channel is one foot by eight inches, and that, at the depth of five feet, it ends in the solid masonry. He supposes, therefore, that it is a forced passage, as the stones within it are regularly and firmly built, and could not have fallen in by accident, and as there are no traces of any aperture on the exterior of the Pyramid, which he had carefully examined. He also describes another opening, about six inches wide, on the eastern side of the Chamber,[4] which gradually became larger, and appeared to have been intended to contain relics, manuscripts, or other articles usually placed in tombs. He again condemns the conjectures of M. Maillet, and observes how easily hypotheses are made, and how quickly they vanish before an unprejudiced observer, who is determined to be guided by facts, and who will not conceal the truth. He says, that the mouth of the well is from thirty to forty inches wide, and inserts M. Maillet's description, which he had himself verified. He then remarks, that the King's Chamber is not in the middle of the Pyramid; but, as he did not take the angles of the descending and ascending passages, he could not exactly fix its position.[5] The position of the entrance into the Pyramid, to the eastward of the centre in the northern front, he supposes, was intended to conceal it in case a vertical excavation should have been attempted from its apex; and he considers that this precaution was the most ingenious contrivance in these buildings, which, it is to be remarked, he does not appear to hold in much estimation. He is of opinion, that sepulchral apartments, with entrances from the other sides of the Pyramids, may exist, not only on account of the immensity of the building, but as affording an additional chance of security for the principal tomb, which could not have been easily distinguished from the rest. He does not coincide with the opinion of M. Maillet, that the well had been closed up, nor that the great

[4] This must be the southern air-channel.

[5] It is to the north of it in his plan, which by his own confession cannot be very accurate.

gallery, or any part of the horizontal passage leading to the Queen's Chamber, excepting its entrance, had been filled up with solid masonry, but only the ascending passage; and he is of opinion, that the stones necessary for these operations were deposited between the ramps, which were raised for the purpose of affording a spacious and level entry for the funeral of the king.

He then quotes Herodotus and Pliny, as to the construction of the Pyramids, and estimates its solid contents at 79,144,277 cubic feet, and thinks that it might be built by European workmen for 158,288,554 francs. The causeway seemed to M. Denon to have been made for the conveyance of the building materials, and he says that its construction shewed a great want of skill in those who built it, and their ignorance of the arch, or that it would have been used in this instance, and also in the Pyramid itself. The mortar appeared to be like that used in Europe, and the stones had been squared. He assigns a base of six hundred and fifty-five feet, and a height of three hundred and ninety-eight feet, to the Second Pyramid, which was built with blocks quarried from the spot. The casing that yet remained shewed the angle of the upper part of it, but he concludes from Herodotus, that the lower part was built in steps or degrees. The stones of the exterior had not been regularly squared, and it had, on this account, been covered with plaster composed of "gypse," of a little sand, and small flints. It was very white and conspicuous at a great distance, and when the sun shone brightly upon it, it reflected the light, so that it appeared to many persons to have been composed of fine granite.[6] Having examined the temple on the eastern side, he does not think that much of the Third Pyramid is concealed by the sand; its base was a square of two hundred and eighty feet, and its height was two hundred and sixty-two feet. He could not measure the ranges of stone on the northern front on account of the excavations said to have been made by Mourat Bey, or by his predecessor, Mahomed Bey, in consequence of having been presented with a ring, upon which was engraved a prediction of good fortune, and of having dreamt of a treasure concealed in this monument. From the vast quantity of black marble (probably basalt), as well as granite, which he observed near this building, its construction seemed to have been truly described by antient

[6] The casing is of calcareous stones in horizontal courses, like that of the propylæa at Karnac.

authors, and he thinks that it had been built of different kinds of stone: the casing appeared to have been lately removed.

NOTE.

The English translation by Aikin differs in some respects from the French edition, as M. Denon is represented in it to have determined that the height of the entrance to the Great Pyramid, which was the only one open, was sixty feet above the base; to have considered the King's Chamber as the principal or sole object for which the building had been erected; and also to have observed, that so great was the antiquity of the Sphinx and of the adjoining ruins, that the time and circumstances of their demolition were equally unknown with those of their construction; and that these wonderful monuments proved the extent to which science had arrived in the remotest times. M. Denon quotes the admeasurements of antient authors, of Greaves, and of Lebrun, and inserts the following observation taken by M. Carabœuf, 1799:—

"N. S. face of the Great Pyramid, 19′ 58″ of declination, N.O."

COLONEL COUTELLE (1801)

WAS officially employed with M. Le Père at the Pyramids of Gizeh, and had a hundred men for a guard. Their exertions appear to have been chiefly directed to take the admeasurements of the Great Pyramid, and to examine the well in the interior of that edifice; to take down one of the smaller Pyramids; and to examine the Sphinx and the tombs. The following is the substance of his remarks:—The entrance of the Great Pyramid is situated on the fifteenth course in the north-eastern front, $14^{m}{\cdot}489$ above the base, and two ranges of stone are placed over it, to support the superincumbent weight of the building. The passages are $1^{m}{\cdot}110$ square, and are formed of blocks of calcareous stone from the quarries near Tourah. The first passage is $22^{m}{\cdot}363$ in length; the entrance appears to have been closed up and concealed by masonry. Upon the removal of the blocks, which formed the casing, the adjacent courses were found to be inclined, like the passage itself, at an angle of 26°. The second passage ascends at an angle of 27°, and is $33^{m}{\cdot}134$ long; the lower part of it is still closed up with large blocks of granite, and to avoid these impediments a communication had been forced beyond them.

This ascending communication ends in a sort of landing-place near the well, whence a horizontal passage, 38^{m}·791 in length, conducts to the Queen's Chamber; this apartment has a pointed roof, and is 5^{m}·793 by 5^{m}·022, and in height 6^{m}·307, and is composed of the same sort of stone as that employed in the passages. The hollow, to the left of the entrance into this chamber, is not part of the original construction, but is merely an excavation made by the Arabs in search of treasure.[7] From the landing-place, before mentioned, another communication continues to ascend, at the same angle as the preceding, in the form of a large gallery, in length 40^{m}·508, in height 8^{m}·121, in breadth 2^{m}·091; on each side are ramps five hundred and seventy-one millimetres high, and five hundred and one millimetres in breadth. The floor between them has the same width as the other passages. There are, on each of the ramps, twenty-eight holes at equal distances, which are three hundred and twenty-five millimetres long, one hundred and sixty-two millimetres broad, and from one hundred and sixty-two to two hundred and sixteen millimetres vertically deep. Colonel Coutelle describes the construction of the walls and roof, and then proceeds as follows. The gallery ends in a broad step 1^{m}·557 in depth, and of the same height and width as the great gallery; a passage is then entered 1^{m}·311 in length, 1^{m}·110 in height, and 1^{m}·049 in breadth; and a vestibule succeeds 3^{m}·803 in height, 1^{m}·214 in breadth, and 2^{m}·955 in length, which has contained several portcullises, and afterwards a passage 1^{m}·047 in width, 1^{m}·110 in height, and 2^{m}·563 in length, forms an entrance into the King's Chamber, for which the whole Pyramid seems to have been built; it is composed of granite, and has the following dimensions:—

Height - - - -	5^{m}·858
Length of northern side - - -	10^{m}·467
Length of southern side - -	10 472
Length of western side - - -	5^{m}·235[8]
Length of eastern side - -	5^{m}·200

The southern side inclines inward eighteen millimetres, which

[7] This can scarcely apply to the niche, which is regularly built in the apartment; yet no other excavations appear to have been then made, excepting that at the bottom of the niche.

[8] In M. Jomard's account, 5^{m}·235 is the length of the eastern side. The chamber is essentially rectangular, the irregularities here stated are merely the imperfections necessarily attending any human undertaking; such attempts at precision are absurd, and form a contrast with the several inaccuracies which may be observed in the French statements.

reduces in some degree the width of the roof. The Sarcophagus of granite is on the western side.

Length	$2^{m}.301$
Breadth	$1^{m}.002$
Height	$1^{m}.137$
Thickness	6 inches.

There are no remains of the lid.

An opening was seen, at the top of the great gallery, to the left of the entrance into the King's Chamber; but no information could be obtained respecting it, and on account of its great height it could not be examined without a ladder.—"Nos mesures étant prises pour aller faire cette découverte, nous étions à peine entrés dans un canal, haut de 731 millimètres, et large de 650 millimètres, qu'une nuée de chauve-souris se précipita sur nous pour sortir; nous fûmes forcés de rester long-temps couchés sur un lit de poussière et d'excrémens de ces animaux, où nous étions étourdis par le sifflement de leurs pattes-ailes et suffoqués par l'odeur piquant qu'ils laissent dans les lieux qu'ils habitent; nous fûmes obligés de nous couvrir le visage pour n'être pas exposés aux atteintes de leurs griffes, et de cacher nos lumières dont une cependant fut bientôt éteinte. Enfin, nous parcourûmes en rampant un espace $8^{m}.385$, et nous arrivâmes dans une vide où aucune lumière n'avoit peut-être pénétré depuis bien des siècles."

This Chamber was exactly over that of the King's, and of the same size, but in height only $1^{m}.002$. The roof and the four walls were of polished granite, but the floor was uneven, being formed by the reverse of the slabs that composed the ceiling of the room below. It was covered, with the dung of bats, to the depth of fourteen centimetres on the higher parts, and of twenty-eight centimetres on the lower; so that it was encumbered, as well as the passage, with rubbish to the depth of twenty-one centimetres. The Chamber was evidently intended for the security of the King's. "Cette précaution n'étoit pas tout-à-fait inutile; plusieurs pierres de ce second plafond sont fendues à une petite distance de leur portée, et les blocs de granit qui les supportent sont éclatés sur les bords, par le poids des pierres posées en décharge sur l'extremité de ce plafond, et par celui de la masse supérieure."[9] A roof of this kind is said to have been found over

[9] There is no weight upon this roof, as there are four chambers of construction above it. It is surprising that the French did not know that this apartment had been

the sanctuary at Karnac, and many of the stones of which it was formed were covered with inverted hieroglyphics, and must therefore have belonged to a former building.[1]

Colonel Coutelle examined the well in company with M. Alibert. He observes, that it was so encumbered with large stones that the space was narrowed, in one place, to the width of two hundred and seventy-one millimetres.[2] Having arrived at the end of the cord by which he was lowered down, he descended without it, to the stones and rubbish at the bottom. He brought some of them up, and they were found to be similar to those in the walls and roof of the Grotto. He, therefore, concluded that they had been thrown down from that place; and that, in the construction of the well, a vein of loose gravel had made it necessary to build up the sides of the shaft, and that the walling had afterwards been broken into, and the Grotto hollowed out in search of treasures supposed to have been concealed behind it; but that the well was made when the Pyramid was built. He states that the thermometer was at 25° at the bottom of the shaft. He does not seem to have had any idea that the first inclined passage was continued beyond its junction with the ascending one, and communicated with the well. The well was afterwards cleared out to the depth of sixteen or seventeen metres. The Arabs worked about four hours in the morning and three in the evening, with an intermission of four or five hours, that the air might be renovated; and the operation was continued till military occurrences removed the French from Gizeh.

The bed, upon which the corner-stone at the north-eastern angle of the Pyramid had been placed, was discovered at the distance of $2^{m}.\frac{3}{4}$ from the apparent base, and the rock had been well levelled and hollowed out to the depth of two hundred and seven millimetres for the space of $3^{m}.9$ by $3^{m}.4$. The original base was also traced at the north-western angle, at the same level, and at the same distance from the building; and the whole,

entered. And it may also be added, that they did not perceive that the entrance passage went on beyond its forced junction with the ascending passage, in a straight line towards the centre of the Pyramid, or suspect that it communicated with the well; but it is clear that they did not.

[1] Mr. Wilkinson considers that this part of the Temple of Karnac is above 100 years older than any other building at Thebes, and is also of opinion that it had succeeded a more antient edifice.

[2] These stones were subsequently removed by M. Caviglia.

when exactly measured, gave a distance of 232^{m}·747. This was taken, across the heap of rubbish, from the north-eastern to the north-western angle. The vertical height was taken by measuring each step; and, including the two ruined tiers at the top, it was found to be 139^{m}·117 (428. 3. 2$\frac{1}{8}$); and, excluding the upper tiers, which made 1^{m}·117, exactly 138^{m} (424. 9. 11.) There were also two hundred and three tiers, which, including the part formed out of the rock, were 138^{m}·598. (426. 8. 0$\frac{1}{8}$.) To the place where two angular stones had been imbedded was 0^{m}·519. (1. 7. 2.) The height, therefore, from this bed to the two ruined tiers at the top was 139^{m}·117; and, including those which the Pyramid may originally have had, would be 146^{m} (449$\frac{1}{2}$ feet,)—more than twice the height of the towers of Notre Dame. He concludes, that the Pyramid was built upon a platform 32^{m} (100 feet) above the level of high Nile, that it contains 2,662,628 cubic metres, 8,669,305 cubic feet, and that it had been originally covered with a smooth casing. Colonel Coutelle does not mention any quarry-marks.

In a large tomb, westward of the Great Pyramid, a shaft was discovered, whence, at the depth of 19·30 millimetres, 58·7 inches, a rough grotto proceeded, which extended east and west, and contained a sarcophagus of granite, 1^{m}·068 in height, 2^{m}·675 in length, and 1^{m}·133 in width. It was placed north and south, and had the same dimensions as that in the Great Pyramid; it was well polished, but without hieroglyphics. The lid was fitted on by pommels, with corresponding hollows and grooves. The mummy had been taken away. As the tombs, which had been excavated, were found to have been plundered, Colonel Coutelle and his companions determined to secure the possession of a sepulchre, which had never been opened or violated, by taking down one of the smaller pyramids. They accordingly fixed upon one of the three to the southward of the Third, the base of which was 43^{m}, and they concluded that a shaft would be discovered in the centre of the building. The stones were from 1^{m} to 1$\frac{1}{2}^{m}$ in thickness, and weighed about six thousand kilogrammes, and they had been removed from the top to more than half of its height when the French evacuated Gizeh.

It appears, by the Colonel's account, that the back of the Sphinx was the only part uncovered.

M. JOMARD (1801).

This gentleman, besides various quotations from antient and modern authors, enters into considerable detail respecting the Pyramids, and says that the Great Pyramid is four hundred and eighty-three metres N.E. of the Second, nine hundred and twenty-six metres N.E. $\frac{1}{4}$ N. of the Third, and five hundred and forty-nine metres N.W. $\frac{1}{4}$ N. of the Sphinx. The northern base deviates from direct east and west 0″. 19·58 southward, so that the northern face is 20 south of east. The base was measured on December 8th, 1799; and again afterwards by M. Le Père, an architect, and by Colonel Coutelle, Chef de Bataillon, who made excavations at the northern angles for that purpose. The entrance was in the northern front, about forty-three feet above the base, and a mound of rubbish[a] afforded a path to it. The remains of a foss, eighteen metres six broad, was excavated in the rock, and extended along its northern front, the depth of which was unknown, but it was supposed to be in some respects like that near the Second Pyramid.[a]

He then observes, that the Great Pyramid had been covered with a casing, but that it had been totally removed, and that the

[a] No traces of a foss exist, nor is there any near the Second Pyramid, where a space on the western and northern sides of the building has been cleared and levelled, by removing a part of the rock, by which a low cliff is formed, about twenty or thirty feet high, around that part of the area. It is remarkable, that this foss is inserted in the plans, which are very inaccurate in many respects, considering the time and opportunities that the French had for surveying the ground. In Plate VI. this foss is inserted, whilst the excavations to the eastward of the Great Pyramid are omitted, as well as the foundations of buildings near them. The smaller Pyramids, and other ruins near the large one, are also incorrectly placed. Many errors may likewise be perceived in the other plates. In the XIVth, for instance, the King's Chamber is represented in the centre of the Pyramid. It is to be observed, that the descending passage in the Great Pyramid is made, in the sections, to end at its junction with the ascending communication; which proves that, notwithstanding Mr. Davison had examined the lower part of the passage in 1763 for a considerable distance, the French, although they were employed from 1799 to 1801, had no idea that it was continued into the Pyramid. This, however, is also clear from the account of Colonel Coutelle himself. The plans likewise shew, that the back of the Sphinx was the only part, from which the sand had been removed.

whole building, particularly near the central parts of the faces was much dilapidated. The ascent to the summit was usually made at the N.E. angle. In 1801, Colonel Coutelle and M. Le Père found that there were two hundred and three ranges of stones, which diminished towards the top, and that the original height of the Pyramid had been four hundred and twenty-five feet nine inches; that the height of it, in its actual state, was four hundred and twenty-two feet five inches; the trigonometrical survey gave four hundred and twenty-three feet. In proceeding to describe the interior, M. Jomard repeats the mistake, which was made by Colonel Coutelle, in supposing that the large stones placed "*en décharge*" over the entrance supported a great weight of masonry; which, owing to the oblate form of the building, cannot be the case. He then says, "L'entrée, ou le bord actuel du canal descendant, est aujourd'hui à la treizième assise, ou à 12^{m}·64; c'est-à-dire, au treizième de la hauteur de la Pyramide, tronquée actuelle ou depuis du roc. Le plan vertical, nord et sud, passant par le bord est de cette entrée, est à 120 mètres de l'angle nord-ouest; par conséquent, 6^{m}·34 est de l'apothème, 120 mètres moins la moitié de 227^{m}·32; or la largeur du canal est de 1^{m}·11; il suit de là que le plan vertical passant par cette galerie est bien perpendiculaire à la face verticale du socle, dirigée est et ouest. En effet 1° le chambre dite du Roi, qui a la même axe que celui de la Pyramide, et dont les murs sont dirigés est et ouest, et nord et sud, a 10^{m}·472 de longeur, dont la moitie fait 5^{m}·236. 2° la distance à l'apothème, 6^{m}·34 doit être diminuée de la demi-largeur du canal, 0^{m}·555; reste, 5^{m}·790; la différence, à 5^{m}·236 est seulement de 0^{m}·549."

He describes the forced passage; and, in a note, makes the following remarks respecting the persons who made it: "Croyant que le premier canal continuoit à descendre, ils ont creusé dans la même direction; mais s'étant aperçus de leur erreur, ils se sont écartés à droite, et ont fait une tentative inutile, il reste en ce point un grand trou; ensuite ils se sont portés à gauche, et après avoir parcouru en demi-cercle autour de la vraie direction, ils ont découvert le second canal."[3] He gives the dimensions of the interior; and remarks, that there are twenty-eight holes, above the ramps in the great gallery on the eastern side, but only

[3] This makes it clear, that no suspicion existed that the entrance-passage continued.

twenty-six on the western, on account of the entrance of the well. He does not comprehend the use of the air-channels in the King's Chamber, which he found to be blackened with smoke. The sarcophagus, he observes, was quite plain, without sculpture, and also without a cover; and that an excavation, about eight feet long and two in width, had been made under it towards the western side of the room. He adds, that Davison's Chamber was almost unknown before the French expedition;[4] that it has the same dimensions, excepting as to height, as the King's, which is directly beneath it; and which it was intended to protect from the weight of the building. He adverts to the echoes produced by the report of fire-arms, which were often discharged into the air-channels. He describes the horizontal passage to be of the same size as that from the entrance, and the Queen's Chamber to be composed of granite, upon which he observed a considerable quantity of saline incrustation, and says that it had a pointed roof. He states, that this apartment was extremely offensive, and much encumbered with the rubbish produced by a large excavation. As for the well, he did not examine it himself, but received his information from Colonel Coutelle, who said, that at the bottom of it an apartment had been cut in the rock, either for the accommodation of those who descended, or to catch the *débris* which might fall from above; and that it was so extremely hot, that the thermometer stood at twenty-five degrees, whilst, in other parts of the Pyramid, it was at twenty-two. The depth of the shaft was said to be 63^{m}·34, and the top of it 68^{m}·71 above the level of the Nile; but that M. Le Père was of opinion, if it were entirely cleared out, that it would go down even to the antient level of the river, which was formerly lower than it then was. He observes, that the Second Pyramid was built by Chephren; that the eastern and southern sides of the foss, by which it was surrounded, are destroyed, while the northern and western yet remain. He says, that this foss is a wonderful work, and cut in the rock to the depth of 8^{m} or 9^{m} (twenty-five or twenty-eight feet); that its width on the northern side is 59^{m}·5, (about one hundred and eighty-three feet six inches): and that part of it is hidden under the sand. Its width on the western side is 31^{m}·4, or ninety-six feet nine

[4] It had been mentioned by Niebuhr, discovered by Davison, and known previously to M. Meynard (a French merchant).

inches and six lines, and that the Pyramid is built in the bottom of it. This Pyramid, he states, has had a revetment of calcareous stone, a portion of which remains on the upper part, which terminates in a point, and that the lower part had probably a casing of granite, as he observed several blocks of that material scattered around it.[5]

He then mentions that the Third Pyramid, which is called that of Mycerinus or of Rhodope, has the same aspect as the two others, and has also been cased with granite. The chasm on the northern side was made by Murad Bey. This building was formerly separated from the Second Pyramid by a court, parts of which yet remain, as well as of another on the southern side, enclosing three smaller Pyramids; whilst two other walls, on the western side, formed a protection from the sands of the desert. The ruins to the eastward of this Pyramid were composed of very large stones, and had a spacious court, in which an entrance was formed by two immense walls thirteen feet thick. The whole of it was built with enormous blocks, as was also the southern dyke, which was probably intended for the transport of stones from the village Koum el Ecoued[6] (the Black Building), where they had been brought by a canal; and he conceives that the name of the village might be derived from the dark colour of the stones.

A fourth Pyramid, about thirty metres to the south of the Third, has the same aspect. M. Le Père and Colonel Coutelle began to pull it down, but they had only time to remove one-half of its height. They found many quarry-marks on the stones. Two other Pyramids are to the west of this building. They are built in four stages, each of which is divided "en marches très hautes et très étroites, largeur de $0^{m}.25$, à $0^{m}.4$; le parement en est incliné; le sommet est une plateforme; la base de l'une a $31^{m}.6$; de l'autre, $31^{m}.8$; le premier corps a $4^{m}.4$, de haut; le deuxième, $5^{m}.6$; le troisième, $5^{m}.4$; le quatrième, $3^{m}.2$. La retraite du deuxième sur le premier est égal à $3^{m}.2$; celle du troisième sur le second, à $3^{m}.2$; celle du quatrième sur le troi-

[5] It is to be remarked that no foss exists. The Pyramid has been erected upon a rock that slopes down towards the east, and, in some degree, towards the south; and the higher part, towards the west and the north, has been perpendicularly cut down, and levelled for a considerable space, so that a low cliff has, on that side, been formed, in which grottoes have been excavated.

[6] Koum el Eswith. The villages upon the plain are not correctly laid down in the French maps.

sième, à 3m·3; la hauteur, 18m·6; l'angle d'inclination, 46 degrés. Les trois marches inférieures ont 1m·5, et 1m·4 d'élévation; les suivantes sont un peu plus basses, mais la dernière a encore 0m·8."

M. Jomard gives the following dimensions:—

				FRENCH MEASURES.			
				Pds.	Pcs.	Lns.	Mtrs. &c.
Height of entrance from base[7]				43	0	0	
Number of courses of stones, 203							
Height, deducting the two ruined tiers at the top				425	9	0	
Small courses of the platform				422	5	0	
Height by trigonometrical survey				423	0	0	
Arête de la Pyramide, line from the summit to the base at the angles							217·83
Inclined height							184·722
Diagonal of the base							326·54
Triangle of the fronts of the Pyramid—							
Angle de l'arête avec la base	57°	59′	40″				
Angle of the top	64	0	40				
Angle des deux arêtes opposées—							
Diagonal angle at the summit	97	6	0				
Angle de l'arête avec la diagonale de la base—angle formed by a diagonal of the base with one of the lines at the angles	41	27	0				
Angle of two opposite fronts	77	21	50				
Angle of one of the fronts with the base	51	19	4				
Le périmètre de la base—the circumference of the base							923·6
Le périmètre du socle—the circumference of the pedestal[7]							930·99
Width and height of entrance-passage				3	4½	0	
Angle of descent, 26° 30′							
Length of passage				67	2	0	
Distance from the entrance of passage to exterior of Pyramid							2½
Height from end of descending to commencement of ascending passage				6	0	0	2
Angle of ascending passage, 25° 55′ 30″							

[7] These mensurations do not exactly agree with those of M. Coutelle. The Pyramid has no pedestal, but the faces and also the lines of the angles (les arêtes) are in one continued line from the top to the bottom.

	FRENCH MEASURES.			
	Pds.	Pcs.	Lns.	Mtrs. &c.
Width and height of ascending passage -	3	4½	0	1·11
Length of ascending passage - -	102	0	0	
Angle of great gallery, rather more than 26°.				
Height of the floor at its commencement -	7	2	0	
Breadth of ramps - - -	1	6½	0	
Width of great gallery - - -	6	5	5	
Height of great gallery, about -	25	6	0	
Length of upper passage - - -	124	2	11	
Height of upper step - -	2	9	4	
Length of landing-place - - -	4	9	6	
Breadth of passage to King's Chamber -				1·049
Height of ditto - - -				1·11
Length of ditto in all - -				8·385
Width of vestibule - - -				1·215
Height of ditto - - -				3·8
Length of ditto - - -				2·956
Height under the granite stone - -				1·11
Thickness of ditto - - -	0	15	0	
Height of ditto - - -				1·45
Breadth of ditto - - -				1·05
Length of passage to King's Chamber -				1·110
Length of King's Chamber.				
Southern side - - -				10·472
Northern side - - -				10·467
Eastern side - - -				5·235
Western side - - -				5·200
Height of King's Chamber - -				5·858
Height of air-channels from floor -	5	0	0	
Entrance of air-channels - -	0	7	0	
by - -	0	8	0	
Depth of air-channels, from 3 to 4 feet.				
Length of nine slabs composing the roof -	18½	0	0	6
Sarcophagus.				
Exterior length - - -				2·301
— breadth - -				1·002
— height - - -				1·137
Depth - - -				0·948
Thickness of the sides - -				0·162
— bottom - -				0·189
Height of Davison's Chamber - -	3	1	0	1·002
Length of horizontal passage to Queen's Chamber	119	5	0	38·791
Breadth and height - - -	3	4½	0	1·11
Length of Queen's Chamber - -				5·793.
Breadth of ditto - - -				5·224

	FRENCH MEASURES. Pds.	Pcs.	Lns.	Mtrs. &c.
Height to the springing of the roof -				4·114
Extreme height of roof - - -				6·308
Length of entrance - -				1·4
Width - - - -				0·6
Well.				
Lower part of it—length - -				0·65
— width - -				0·6
Depth of first part - - -				47·102
— second part - -				16·242
Total depth - - -				63·344
Height of grotto - -				3
Breadth of ditto - - -				3
Height of top of well from the level of the Nile				68·71

SECOND PYRAMID.

Distance between Great and Second Pyramid -	555	0	0	180
Base on the northern side - -				207·9
—— western side - - -				210·0
Height - - - -				138·0
Angle of inclination, 52° 50′.				

THIRD PYRAMID.

Base on the northern side - -				100·7
Height, about - - - -				53
Angle of inclination less than 45°.				

TEMPLE TO EASTWARD OF THIRD PYRAMID.

Length - - - -	173	0	0	56·2
Breadth - - -	166	0	0	53·8
Vestibule to the eastward - -	95	0	0	31
Width of vestibule - - - -	44	0	0	14·2
Length of dyke from the entrance - -	801	0	0	260
Breadth of dyke - - -	44	0	0	14·2

DR. CLARKE (1801)

Was at Gizeh on 23rd of August, and bears ample testimony to the magnificence of the Pyramids.[8] He found that the platform,

[8] Mr. Hamilton was of the party.

on the top of the great one was thirty-two feet square, and that it consisted of nine stones, each of which was nearly a ton in weight, although they were much inferior in size to some of the blocks used in other parts of the buildings. They were of a grey lime-stone, rather more compact than that which the English masons call "*clunch*;" and, in common with other kinds of the same stone, exhaled a fœtid odour upon being struck with a hammer. They appeared to have been quarried upon the spot, but several blocks of a more compact variety were found scattered about the base; and, though he did not himself observe any, were to be seen, as he was informed, in the corners of the building, which were put together with mortar, containing fragments of terra cotta. He remarks, that the French had been very assiduous in their researches; that they had attempted to open the smallest of the three Pyramids, and had left a considerable chasm[9] in one of its sides, as an everlasting testimony of their curiosity and zeal; and that, had not a stop been put to their labour by the landing of our army, "the interior of this mysterious monument would have probably been now submitted to the inquiry which had long been an object among literary men." The doctor and his party measured the Pyramid; but as he was not satisfied with the result, he did not publish it, and contents himself with stating, that the French found the height of the Great Pyramid to be four hundred and forty-eight French feet. He then went up by the mound of rubbish to the entrance, and after having examined it, was of opinion that whoever opened the Pyramid must have been previously informed of its construction, because its position seemed to be "almost in the centre of one of its planes, instead of being at the base;" and, because no traces appeared of any other excavations in search of it.[1] He does not believe the Arabian tradition, that the Pyramid was opened by Al Mamoon, a caliph of Babylon, in the ninth century; for Strabo must have known of the entrance above eight centuries before the existence of the caliph, as he has exactly described it, as well as the passage

[9] This chasm was made by the Mameluc Beys, and not by the French; and if it had been carried through the Pyramid, it would not, as has been proved, have led to any discovery, for the passages and chambers are entirely excavations in the rock. It is remarkable that no author has mentioned the excavation in the walled enclosure at the northern front of this Pyramid.

[1] Dr. Clarke could not, of course, have been aware of the forced entrance formed by the caliphs, nor of the excavations at the base, as they were concealed under the mound of rubbish.

leading to the sepulchral chamber; and he remarks also, that it must have been open even in the time of Herodotus, as he speaks of subterraneous chambers, which must have been seen to have been described. He conceives, therefore, that the interior was accessible in the earliest ages, and that perhaps it had never been completely closed up.[2] He refers the reader to Greaves's admeasurement, but observes, that the entrance inclined at an angle of 26°, and that the bottom of the ascending passage was closed up with blocks of granite, and that a forced communication had been carried round them, which he entered. At the end of this ascending passage (one hundred and ten feet in length) he came to the well, which was, according to Pliny, one hundred and twenty-nine feet deep, and, according to Greaves, only twenty feet; and he conjectures, that the difference between these statements was occasioned by the indirect course of the shaft, as a large stone, which was thrown into it, was for some time delayed by the sinuosities of the channel, but at length fell to the bottom with a loud and "splashing sound, as if it had been broken into pieces," and had fallen into a reservoir of water of considerable depth, which agrees with Pliny's assertion, that there was water at the bottom of this well.[3] He also states, that two or three small ducts or channels, branching off to the east and west from this passage, were observed when the well was examined; and as they are not described by Sandys, Greaves, Vansleb, Pococke, Shaw, Niebuhr, Maillet, Lucas, Norden, Savary, or any author that he had consulted, he supposes they were made by the French. Dr. Clarke and his party entered several of them, but could not make any progress. They found in one a small square apartment, about three feet in height, into which a quantity of loose stones had been thrown, apparently in clearing out the passage leading to it. These hollows appeared to be accidental, and of little or no consequence.[4] He then proceeded by the horizontal passage to the Queen's apartment, and mentions its inclined roof; and having returned towards the well, he ascended to the King's Chamber. He did not perceive the white and polished

[2] He had not observed that the passages have been stopped up with solid masonry, and with a portcullis.

[3] It is remarkable that Dr. Clarke did not know that the well had been repeatedly examined, and that the French had excavated in it.

[4] No such excavations exist at present, unless the grotto in the well, or part of the forced passage made by the caliphs, are alluded to; but neither of them answers this description.

marble mentioned by Greaves in the great passage or gallery, nor the pilasters[5] mentioned by Pococke in the antechamber. He observes, that pilasters were a comparatively modern invention, and that marble was not used by architects before the fifteenth olympiad, seven hundred and twenty years before Christ.[6] He then entered the King's Chamber, and admired the wonderful skill with which it was constructed. Six ranges of stone formed the sides, which were twenty feet high; its length was about thirty-six feet, its width eighteen; the ceiling was composed of nine slabs. Near the western side was a sarcophagus of the same granite[7] as that of which the chamber was composed; its external length was seven feet three inches and a half, its depth three feet three inches and three quarters, and its breadth the same. He then took a cursory view of the other Pyramids, but has nothing to communicate respecting them but what would be a repetition of what has been already related by other writers. But he observed, when on the summit of the Great Pyramid, that the Second had, near its vertex, the remains of a covering as of a plating of stone, which had once invested all its four sides; and he says, that by some this revetment was erroneously supposed to have been marble. And he observed, also, that it was surrounded by a paved court, with walls on the outside, in which were places for doors or portals, and that it had likewise an advanced work or portico.[8]

[5] The pilasters were the grooves of the portcullis.

[6] Under the term "marble," the antients appear to have included any hard stone that would take a good polish.

[7] Dr. Clarke states, that "this beautiful relic was entire when our troops were landed in Egypt," and mentions, that it had been reverenced and left untouched by all people and nations, till it was broken by the English soldiers and sailors. Now, it is stated by M. Palerne, who travelled in 1581, that he brought away a piece of it as a relic;—"de la pierre de laquelle nous emportâmes un morceau par curiosité." M. Thevenot, who travelled in 1655, also mentions that pieces had been broken off with *hammers* to be made into seals;—"pour en faire des cachets." And Mr. Melton, who travelled in 1661, mentions, that he took with him a hammer for the express purpose of breaking off a piece of it, but that he did not succeed in doing so, owing to the hardness of the stone. It is very probable that our people may have injured this monument, as fools of all nations have, in other instances, mutilated and destroyed the remains of antiquity; but Dr. Clarke should have been certain of the fact, before he preferred an exaggerated accusation against the British army, and drawn an invidious and unjust comparison between them and the French soldiery.

[8] The walls are rocks. The portico must be the Temple on the eastern side.

Dr. Clarke, in a subsequent chapter, in which he enters into considerable detail, respecting the origin and purposes for which the Pyramids were constructed, seems inclined to discard the authority of the Greek historians, particularly as their origin was unknown when the first Greek philosopher visited Egypt. He adverts to the accounts of the Arabs, and to that of Manetho, as preserved by Josephus; and also to sacred history. He observes, that the Jews were remarkably connected with Egypt in general, and especially with the Pyramids, although their labours were chiefly employed upon brick constructions; and seems disposed to conclude that the Great Pyramid was the tomb of Joseph, and that it was opened at the exodus that his bones might be carried up to Judæa, according to the oath he had required from his brothers. He remarks the general resemblance which exists between the Pyramids, as sepulchral monuments, and tumuli, and conceives that the Soros and Stela are included in their form. He afterwards alludes at some length to the Pyramids discovered in Mexico and in South America.

MR. HAMILTON (1801)

Travelled in Egypt in 1801. He does not profess to enter into a detailed account respecting the Pyramids, but refers to the accounts of Pococke, of Denon, and of former travellers. He gives the following admeasurements from M. Nouet's report to the Institute, and also from his own observation. Base about seven hundred and fifty feet each way.

	French feet.	Inches.
Length of the Pyramid - - -	716	3
Diagonal of the base - - -	1013	0
Length of the edge in its present state -	636	1
Length of do. when entire - - -	676	8
Length of the platform at the top - -	42	8
Height of the Pyramid in its present state -	421	8
Height of do. when entire - -	448	6
Length of the inclined side - - -	574	1

Angle which the edge forms with the diagonal, 41° 42′ 20″.
Angle which the edge forms with the base, 58° 2′ 20″.
Inclination of the sides towards the plane of the horizon, 51° 23′ 46″.

The following measures were taken from his own observations:

	English feet.	Inches.
Length of the Chamber where is the Sarcophagus -	34	9
Breadth of do. - - -	17	4
Height - - - - -	22	0
Length of the Lower Chamber - -	20	0
Breadth of do. - - - -	17	0
Height of do. - - -	15	0
Length of the Sarcophagus - - -	7	6
Breadth of do. - - -	3	6
Height of do. - - - -	3	6
Thickness of sides - - -	0	6

Mr. Hamilton considers that the Pyramids were tombs, and that the granite chest was a sarcophagus; but that, whatever might have been its destination, it is evident that the building was constructed for the express purpose of containing it, from its peculiar situation within the building, and also from the exact correspondence of its dimensions with those of the several passages and doorways. He can scarcely believe that any of these vast buildings, particularly the large one, could have been begun and finished in one reign.

He remarks, that the Second Pyramid is smaller than the great one; and that the differences of forty feet in its height, mentioned by Herodotus, and of seventy-five feet in its base, stated by Diodorus Siculus, appear to be near the truth. He then adverts to the difficulty which exists, in the present state of these monuments, to account for the canal by which the waters of the Nile were said to have been introduced; and expresses his belief, that the whole of the revetment of the Second Pyramid was not entirely completed.

He found that the base of the Third Pyramid was three hundred feet, and that it was one hundred and fifty-six feet in height; and observed, that it retained several blocks of the Ethiopian stone, with which, according to Diodorus and Herodotus, it was reveted half way up to the summit. He remarks, that it had never been satisfactorily ascertained whether the Pyramids in general were entirely built upon the rock, or round one or more detached hills; and observes, that the account given by Mr. Bruce of fragments of rock existing in the roof of the large gallery, in the Great Pyramid, is a mistake, and that the whole of the roof is composed of masonry. He then takes notice of the three smaller

Pyramids to the south of the Third, in which, according to Diodorus, were deposited the bodies of the wives of Chemmis, Chephren, and Mycerinus; and afterwards of the ruins on the eastern fronts of the Second and Third Pyramids, which, he observes, did not resemble the temples in Upper Egypt. He concludes with several observations respecting the Sphinx.

DR. WHITMAN (1801)

Observes, that the Pyramids of Gizeh are situated about ten miles to the south-west of Cairo, upon elevated and rocky ground, which is covered with white sand, and forms the boundary of the Lybian mountains; and that their sides are opposite the four cardinal points. He remarks, that the base of the Great Pyramid had had different lengths assigned to it—from six hundred to eight hundred English feet;—but that the French had ascertained that the length of it was seven hundred feet, and the height of the building six hundred feet. He found that the First and Second Pyramids were nearly of the same size; and that the Third, although comparatively small, was also an enormous structure, and it appeared to have been cased with red granite and porphyry, as immense blocks of those stones were scattered around the base. From the deep grooves which he had observed on several of these blocks, he was led to believe "that they had been originally connected together by metallic hoops or fastenings, which having been corroded by time, by the occasional moisture of the atmosphere, and by other causes, the blocks had been set at liberty, and had successively fallen to the ground."[9] The other Pyramids were built of calcareous blocks, of different qualities and textures. He did not personally examine the interior of the Great Pyramid, but collected the following particulars from his companions; who informed him, that above the great chamber, in which the sarcophagus or coffin is deposited, there is a smaller apartment, about eighteen feet in length; and that the passage from the entrance is more than one hundred feet in length, the ascending nearly of the same extent, and the great

[9] These groovings have apparently been caused by wedges in splitting the blocks in order to prepare them for removal.

gallery one hundred and fifty feet long. The following admeasurements were taken by a British officer of engineers: —

	Feet.	Inches.
Great Chamber.		
Length	34	4
Breadth	17	0¾
Sarcophagus.		
Length	6	6
Height	3	5½
Thickness of stone	0	6
Width within side	2	2¾
Depth, ditto	2	8

He does not believe that any of the Pyramids have been "finished according to the original design;" and he adds, "that the lower parts or foundations interiorly seem to have been formed of the incrustations of the rocky surface, which is perceptible in several places in the interior." He then states, "that the Sphinx had been hewn out of the solid rock," and that "it was supported by several large blocks of stone, which formed the lower part of the bust, and which had been somewhat decayed by time;" that "it was formerly conjectured that the head of the Sphinx was connected with a body of proportionate dimensions, but the French, by digging away the sand round its foundations, had demonstrated the erroneousness of this opinion."[1] He takes notice of the various ruins, and of the enormous masses with which they have been constructed; and says, that in one of them a capacious and deep well had been found, which was entirely dry. Several of his party ascended the summit of the Great Pyramid at the eastern angle, and conjectured that the ranges of stones were about two hundred, varying from two feet and a half to three feet in length.

DR. WILSON (1805),

In his "History of Egypt," adverts to the Pyramids of Gizeh,

[1] The French are not supposed to have made any considerable excavations or discoveries about the Sphinx, which was opened by Mr. Salt and M. Caviglia in 1817; but it appears that when Dr. Whitman saw it, some of the sand had been removed, as he describes the substructure, although he did not perceive the body of the image.

and gives the following dimensions of the Great Pyramid, which were taken by Mr. Browne:—

	Feet.	Inches.
Great Chamber.		
Length	34	1
Breadth	17	2
Sarcophagus.		
Length	7	8
Breadth	3	2
Depth within	2	10½
Thickness	0	6
First Passage (descending).		
Length	105	1
Small Chamber.		
Length	18	9
Breadth	17	1
Antechamber.		
Length	7	5
Main Gallery.		
Upper part	150	0
Lower part	148	0
Passage to Inferior Chamber	109	1

M. CAVIGLIA (1817).

The following account of M. Caviglia's operations is taken from Mr. Salt's letters, and from some remarks upon them in the nineteenth volume of the "Quarterly Review." M. Caviglia, having made an arrangement with MM. Kabitziet and Fuentes, proceeded to Gizeh, in January 1817, and began with the examination of the well in the Great Pyramid.[2] He descended by means of a rope to the bottom of the first shaft, twenty feet deep, when the passage, which inclined towards the south, was nearly filled

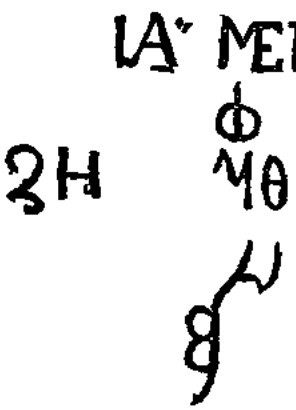
[2] The editor of Mr Salt's papers here remarks, that Mr. Salt did not appear to have been aware that, in the year 1763, Mr. Davison had descended into the well, and had given an accurate description of it. And I may add, that it had been previously explored by a Capuchin Monk, Elzear, in 1652; by a Scotch gentleman; by others who travelled with Thevenot, in 1655; and also by Mr. Wood, as well as by the French in 1800, who contrived at that time to clear a considerable part of the shaft.

up by some large stones, which he had great difficulty in removing. Kabitziet having gone down to his assistance, the blocks were at length cleared out, and he was lowered down about fourteen feet, when the passage was found to be lined with masonry, and to open into a grotto, seventeen feet in diameter and four feet in height. M. Kabitziet, being replaced by M. Fuentes, came down to the grotto, and M. Caviglia continued his descent with the help of the rope. He found that the masonry continued to the same distance below the grotto as it did above; that the channel descended with a sharp incline to the south; and that a succession of holes had been cut in the sides to facilitate the passage. He states, that having gone down above a hundred feet further, the lamp which he carried with him would scarcely burn; and that, at the depth of one hundred and twenty-five feet, he found the shaft entirely stopped up with stones and rubbish, and consequently returned. Soon after this affair, M. Fuentes gave up the undertaking; but M. Kabitziet, although unable to afford personal assistance, agreed to pay half of the expenses of any future operations which M. Caviglia should attempt. That gentleman, therefore, again went to the Pyramid, and proceeded with the assistance of some Arabs to draw up the sand and rubbish from the bottom of the well. In consequence, however, of its confined situation and of the depth of the shaft, the Arabs would not work, and he was obliged to apply for a firman to enforce their attendance. But, notwithstanding all his exertions, the undertaking was at last found impracticable, from want of a proper circulation of air, and was abandoned.

Having, therefore, given up the well, he began to clear out the entrance-passage, from the place where it was generally supposed to terminate, namely, where it is connected by the forced communication with the ascending passage;[3] and in doing so unexpectedly effected his former purpose respecting the well: for, after having advanced one hundred and fifty feet, a doorway was discovered, and the smell of the sulphur perceived which had been burnt in the well to purify the air; a bat flew out, and the cords and baskets left in it during his former operations were found; and thus a free circulation of air was restored by means of the well, which communicated with the upper and lower passages. Mr. Salt and Mr. Briggs then joined in the undertaking. On clearing

[3] This had been partially done by Mr. Davison, to the length of one hundred and thirty-one feet.

more of the passage, a wide fissure was discovered, which appeared to be a continuation of one that had been seen in the well. The passage is then said to have become narrower, and to have continued in a horizontal direction for twenty-eight feet, containing, on its western side, a recess five feet long and three feet deep, which, in Mr. Salt's opinion, corresponded with that near the King's Chamber. The passage soon after entered, at the north-eastern angle, a chamber, with a flat ceiling, forty-six feet long, and twenty-seven broad. The room was nearly filled with stones and rubbish, and rain-water had occasionally flowed into it from the entrance, and upon examination, when cleared out, it was found to be unfinished. Opposite the entrance a low horizontal passage continued, in a direct line, to the distance of fifty-four feet, when it abruptly ended in the rock. Some rough characters had been formed with the smoke of a candle upon the roof, but were nearly illegible; they prove, however, that this chamber was open in the time of the Romans. Mr. Salt considered that the chamber had been originally finished, and that its imperfect condition was the effect of violence; he was also in hopes that it would have led to the discovery of the tomb, described by Herodotus to have been surrounded by the waters of the Nile, but by examination, and by referring to the admeasurements taken by the French, he found that the Nile, at its height, was thirty feet lower than the floor of the chamber. An excavation was discovered near the middle of the apartment, which seemed to be the beginning of a shaft. Mr. Salt was of opinion, that in the time of Strabo this chamber was the only one open,[1] and that the upper ascending passage had not then been discovered; and he was confirmed in this idea by Pliny's account of an excavation in this Pyramid, eighty-six cubits below the base, which very nearly agreed with the depth of the chamber. He remarks, that the discovery of the upper passages, and of the tomb, appeared to have been made by Almamoum, son of Haroun el Raschid, and that the state of the Pyramids coincided with the account given by Arabian historians of that discovery. M. Caviglia then cleared out the Queen's Chamber, in the hope



[1] This opinion was stated by Dr. Shaw in 1721.

of finding a sarcophagus, and, also, of successfully continuing an excavation which had been made to the distance of forty feet under the niche in that apartment. Nothing, however, was discovered excepting the names of "Paisley" and "Munro" inscribed at the end of it. Mr. Davison's Chamber was next explored, and it was supposed to be of larger dimensions, in length and breadth, than the King's Chamber below it, although its height was not more than four feet. The singular dimensions of this apartment, and the circumstance of its having been highly adorned with polished granite, led Mr. Salt to expect some further discovery, but a most rigid examination ended in disappointment.[5]

Mr. Salt then describes M. Caviglia's labours at the tombs adjacent to the Pyramids, many of which appear to have been cleared out, and very extensive excavations to have been made in every direction. He adverts to the chambers excavated in the rock to the westward of the Second Pyramid, and takes notice of the one in which the roof is carved in imitation of the trunks of date-trees, and also of the remarkable hieroglyphics on the face of the rock to the north of that Pyramid. He then mentions the works carried on at the Sphinx, and says, that after meeting with considerable success, M. Caviglia, having experienced a severe attack of ophthalmia, returned to Alexandria, as, according to Mr. Salt, he was master of a merchant vessel that traded in the Mediterranean under the British flag.

In addition to the above details it may be added that the "Quarterly Review," in the nipeteenth volume, in alluding to the probability that the inclined passages in the Pyramids were intended for astronomical observation, from the uniformity in their angles, and from their northern positions,[6] quotes a memorandum of

[5] "It is evident from the above passage, that Mr. Salt, at the time of his writing it, must have known of Mr. Walpole's recent publication; and yet it is equally certain, that in the early part of his memoir he attributed the discovery of the well to M. Caviglia instead of Mr. Davison, who had explored it fifty-four years before, which seems to have been a mistake that he afterwards omitted to correct."—*By the Editor of "Hall's Life of Salt."*

[6] The passage in the "Quarterly" is as follows:—"In all the Pyramids that have been opened, which at Gizeh and Saccara amount at least to six, the entrance has been found at or near the centre in the northern face, and the passage thence to proceed invariably in a slanting direction downwards; the angle of inclination being always the same. Greaves, in his 'Pyramidographia,' makes that of Cheops 26°, and Caviglia, 27°; which, he says, is common to all the sloping passages within the Pyramid of Cheops. He found the same angle on opening one of the small Pyramids to the south of that of Mycerinus, at the end of the passage of which were two

M. Caviglia in support of this opinion[7]—" One ceases to see the polar star at the spot whence the main passage ceases to continue in the same inclination, and where one begins to mount;" and observes, that from this expression it might be supposed that M. Caviglia had actually seen the polar star when at the bottom of the main passage, and that, in that case, its true angle had not been ascertained. The polar star has been seen from this passage, but the fact that these passages were filled up with solid masonry, their number, and various other circumstances, appear inconsistent with many of the conclusions arrived at upon this subject.

M. Caviglia is also said to have, to a certain degree, determined the long-disputed point, how far the living rock had been made an auxiliary in the construction of these buildings; and he states that it appears externally at the north-eastern angle, also in the main passage, and again close to the mouth of the well about eighty feet above the base. An account is then given of M. Caviglia's operations at the Sphinx, to which are added several interesting remarks and quotations from various authors, which I do not think it necessary to insert.

In a letter of the 21st September, 1818, addressed to Mr. Hamilton, he encloses the following admeasurements of the Great Pyramid, together with these observations. He considers that the external form of the building expresses the pentagramme המשה, which, he is also of opinion, is expressed by the five perpendicular grooves,[8] which are cut over the entrance into the King's Chamber.

	Eng. ft.	In.
Square of the base - - - -	756	0
The height of two sides - - -	678	0
Angle of the sides with the base, 58°		
Angle of the summit, 64°		

chambers leading one out of the other, both empty. Belzoni estimates the sloping passages of the Pyramid of Cephrenes at 26°."

It is to be remarked, that the angle of the entrance passage in the Great Pyramid is 26°·41, and that of the upper passage, 26°·18; that the entrance into the Second Pyramid is 25°·55, and that in the three to the south of the Third, the entrances incline 27°, 27°·12, and 30°. M. Caviglia's description does not distinguish to which he alludes.

[7] This passage is in a letter addressed by M. Caviglia to Mr. Hamilton, in which he states the entrance angle of the inclined entries to be 27°, and adds, " que l'on cesse de voir l'étoile polaire où, avant qu'on eusse bouché le chemin, l'on cessoit de descendre pour monter."

[8] These grooves are four in number, and appear to have been made for the purpose of lowering the stone with which the passages to the King's Chamber were closed up.

	Eng. ft.	In.
Height of the entrance from the base	51	0
Width of entrance-passage	3	6
Height of entrance-passage	4	1
Length from the entrance to the granite blocks in the ascending passage	73	0
From the granite blocks to the beginning of the gallery	118	0
Height of the gallery	30	0
Breadth of the lower part of it	7	0
Breadth of the higher part of it	4	0
The length of it is the same as that of the passage to the King's Chamber	152	0
Height of the passage leading to the King's Chamber	3	7
Width of it	3	5
Height of the Sarcophagus	3	6
Width	3	3
Length	7	6
Thickness	0	6
Length of the Chamber	35	6
Width	17	3
Height	18	9
Length of passage to the Queen's Chamber	126	0
Height of the Queen's Chamber	15	9
Width	17	2
Length	19	0
Depth of the well to a block of granite that had fallen into it	38	0
Size of the entrance of the well	2	5
Depth of the well	192	0
Its width, from 1 foot 6 inches to 2 feet 6 inches.		
Height of the rock, in which the well is formed, 80 feet above the base of the Pyramid.		
The length of the descending passage in a right line with that of the entrance	230	0
From the beginning, to the beginning of the rock	27	6
From the beginning of the rock to the well	178	0
From the well to the horizontal passage	22	0
Length of the horizontal passage	28	0
Length of the subterraneous chamber	44	9
Breadth of it	26	6
Height from 12 feet to 5 feet 6 inches.		
Length of passage to the southward	52	0

He says, that in the subterraneous chamber there is a cistern, with excavations like niches, and in them pedestals. He remarks,

that Davison's Chamber is about the same size as the King's, but that the height is irregular, and does not exceed three feet six inches; and that it is entered by a small hole at the upper end of the gallery. He adds, "Si la construction extérieure de ce monument explique la valeur de ce pentagramme יהשוה, l'intérieur fait connaître les précautions que prenoient les prêtres Egyptiens pour concentrer le domaine de la vérité, en moduler la propagation, et en arrêter la trop dangereuse dispersion. Comme ce qu'il y a de découvert dans ce monument un auteur l'appelle terra sepulcri, c'est-à-ceux qui connaissent le véritable prix des choses, à en découvrir l'autre partie, que le même auteur appelle terra viventium."

M. BELZONI (1817).

M. Belzoni and Mr. Beechey visited the Pyramids in company with Mr. Salt and Mr. Briggs, when M. Caviglia was employed under those gentlemen, and had previously, with the assistance of M. Kabitziet (a young man in the employment of Mr. Boghos), examined the interior of the well.

M. Belzoni states that, during that operation, M. Caviglia found, at the depth of thirty-eight feet, the shaft stopped up by four large stones, and that three of them being removed, the passage became practicable; that at the depth of twenty-one feet below these stones, a grotto, seventeen feet long and four feet high, was discovered; that from a platform, seven feet below it, the shaft descended two hundred feet, when it was stopped up with stones and sand; and that some Arabs were then employed to clear it out, but from want of air were obliged to leave off. M. Caviglia, he states, then turned his attention to another quarter, and began to clear out the first passage of the Pyramid; and, finding that it continued at the same angle in a right line, he went on with the excavation of it, till he arrived at the entrance into the bottom of the well, and afterwards cleared the rest of the inclined passage, till he discovered the subterraneous chamber.

M. Belzoni then mentioned M. Caviglia's excavations in the different tombs, and those at the Sphinx, where a small temple was discovered, between the paws of the image, and a large tablet of granite, adorned with hieroglyphics, figures of sphinxes, &c., on its breast.

The image of a lion was also found before the temple; a staircase of thirty-two steps, and at the bottom an altar with a Greek inscription, of the time of the Ptolemies; on each side of the altar a broken figure of a sphinx; likewise, at the distance of forty-five feet, another altar, with an inscription to Septimius Severus, and near it a Greek inscription to Antoninus.

He states, that from the base of the temple to the top of the head was sixty-five feet; from the breast to the extremity of the paws in front, fifty-seven feet; and that the height of the paws was eight feet.

He adds, that M. Caviglia opened several tombs and mummy-pits, and also some of the smaller pyramids; and that, at the suggestion of Mr. Briggs to follow a certain direction, he succeeded in finding the entrance into one of them, but it appears that it was so decayed in the interior, that he could advance only a few feet in it."[9]

M. Belzoni was invited by Mr. Salt to join M. Caviglia in these operations, but he did not choose to interfere with that gentleman's researches.

Before his journey into Upper Egypt, however, he visited the Pyramids, in company with two other persons from Europe, and, whilst his companions went into the Great Pyramid, he examined the Second; and, notwithstanding the various attempts made by numerous travellers, particularly by the great body of French *savans*, to penetrate into the interior, and, notwithstanding, also, the late researches made by Mr. Salt and M. Caviglia, he entertained hopes of success. Upon his return, therefore, from Thebes, he again examined the Pyramid minutely on every side, and found, upon the northern, three marks, which encouraged him to search for an entrance.[1] He was also greatly encouraged in the attempt, by observing that the accumulation of rubbish at the northern front was higher than the position of the entrance in the Great Pyramid; and he therefore concluded that a passage was concealed beneath it.

He examined it again the next day, and having obtained a firmaun, immediately commenced operations. One party was employed in excavating between the Temple and the eastern side of the Pyramid; and another in the centre of the northern front, where he observed the heap of rubbish was not so solid as in the

[9] This description does not apply to any of the smaller pyramids that were opened in 1837.

[1] See Athanasi's account of this operation.

other parts. He went on for several days without much apparent success. On the eastern side he cleared down to the solid rock, and traced a pavement from the Pyramid to the Temple, which, in his opinion, surrounded it; and he is of opinion that the Sphinx, the Temple, and the Pyramid, were all erected at the same time, since they are all in one line, and appear of equal antiquity. On the northern side (after a great deal of labour in clearing away the rubbish, by which it was concealed), he came to the forced passage in the centre of that face of the Pyramid. Although he perceived that it was evidently a forced, and not the real entrance into the Pyramid, he worked in it for a few days, but was obliged to desist from the looseness of its construction. Being foiled in this instance, he again examined the entrance into the Great Pyramid, and observed that it was to the eastward of the centre; he therefore renewed his attempts at the Second, at about thirty feet to the eastward of his former excavation; and, after removing a vast quantity of stone, he uncovered the three large masses of granite that form the entrance. The passage was four feet high, three feet six-inches wide, and descended at an angle of 26° to the length of one hundred and four feet five inches. It was almost full of large stones and rubbish; and at the bottom there was a portcullis, which, after much trouble, he raised sufficiently high to allow him to pass. He entered with the Chevalier Frediani into a horizontal passage, twenty-two feet seven inches long, including a space of six feet eleven inches near the portcullis. He then arrived at a chasm, made by a descending shaft, running northward, immediately beneath the other, and having passed it, proceeded in a continuation of the horizontal passage, five feet eleven inches high, and three feet six inches wide, running in a right line from the original entrance towards the centre of the Pyramid. The passage was an excavation, and the walls were covered with arborizations of nitre; and the flaws in the rocks were closed with masonry. It led to a chamber which had a painted ceiling, and contained at the western end a sarcophagus sunk in the pavement. The apartment was forty-six feet three inches long, sixteen feet three inches wide, and twenty-three feet six inches high, and had been formed out of the rock, excepting the roof, which was composed of large blocks of calcareous stone that met in the centre, and had the same slope as the Pyramid itself. The sarcophagus was of granite and without any inscription, and was eight feet long, three feet six inches wide, and two feet three inches deep in the inside. "The lid had been broken off at the

side, so that the sarcophagus was half open; within were some earth and stones; but he did not observe the bones among the rubbish till the next day, as his attention was principally bent in search of some inscription that would throw light on the subject of the Pyramid." Many scrawls, executed with charcoal, were to be perceived; and on the west side of the chamber was an inscription in Arabic,[2] of which the following is a translation by M. Salamé: — "The master Mohammed Achmed Lapicide, has opened them, and the Master Othman attended this (opening), and the King Alij Mohamed at first (from the beginning) to the closing up."

He found under one of the blocks that had been removed "something like the thick part of a hatchet, but so rusty that it had lost its shape." He observed "on the northern and southern sides (of the chamber) two holes,[3] which are in a horizontal direction, like those that are seen in the First Pyramid, but higher up."

He then examined the inclined passage, returning to the northward, beneath the one by which he entered. It descended for forty-eight feet six inches, and afterwards continued in a horizontal direction fifty-five feet. About half-way in the horizontal passage, there was a recess, in the eastern side, eleven feet long and six feet deep; and on the western side, opposite to it, another passage twenty-two feet long, branched off at right angles, with a descent of 26°, to a chamber thirty-two feet long, nine feet nine inches wide, and eight feet six inches high; in which were many small blocks of stone, some not more than two feet in length. This room had a roof of the same form as that of the upper chamber, although it was entirely an excavation. He perceived, upon the walls and roof, some imperfect inscriptions, which he supposed were Coptic. Returning from this apartment into the horizontal passage, he proceeded towards the north, till he came to a portcullis of granite, which had been taken down, whence the passage ascended for the length of forty-seven feet six inches. It had been partially cleared of the masonry with which it had been entirely filled, and evidently shewed that the Pyramid had had two entrances. The following day M. Pieri, of the house of

[2] This inscription is no longer visible, but the following remains in the chamber —"Scoperta da G. Belzoni, 2 Mar., 1818."

[3] The holes go in for a very small distance, and two others appear to have been marked out in red lines below them.

Briggs and Walmas, found a piece of bone in the sarcophagus; and upon further investigation, other pieces were found, which having been carried to London, proved to be those of a bull; and it was therefore supposed that the sarcophagus was intended to contain the bones of that animal, although it was not larger than was necessary for the reception of the wooden cases in which embalmed human bodies were antiently placed.

As the base of this Pyramid had been levelled by cutting away the rock on the northern and western sides, and as there are many extensive quarries in the neighbourhood, he concludes that the Pyramids were built with stones cut upon the spot, and also that they were tombs. The causeways, he supposes, were for the accommodation of visitors, particularly at High Nile. He gives the following dimensions of the Second Pyramid:—

	Feet.
Base - - - - -	684
Inclined height - - -	568
Perpendicular - - - -	456
Coating from the apex to the place where it ends -	140

He does not believe that any inference can be drawn respecting the age of the Pyramids, from the circumstance that hieroglyphics have not been found in or upon them, or that the First Pyramid had been cased, or that the exterior of the Second was completely finished, because stones applicable to that purpose have not been found near them.

With respect to the Third Pyramid, he observes, that an attempt had been made to penetrate the eastern side, but that he commenced his labours on the northern, "and after moving a great quantity of materials," he "found a considerable accumulation of enormous blocks of granite, which had evidently formed the coating: proceeding yet lower," as he "cleared away the rubbish," he "found that part of the coating still remained in its place, down to the base. The removal of these blocks would evidently have brought" him "to the entrance into the Pyramid, but it required more money and time than" he "could spare."[4]

He also adds as follows:—"The consul, Mr. Salt, would have been kind enough to have paid all the expenses I had incurred in

[4] M. Belzoni was right in his conjecture, as subsequent examination has shewn.

opening the Pyramids, but this I positively refused, as I thought it not fair and right that he should pay for what he had nothing to do with."[5]

SIGNORE ATHANASI (1817)

Appears to have been employed by Mr. Salt as interpreter, and afterwards to have been engaged with M. Belzoni at the Second Pyramid. The operations, he says, were first begun at all the four sides of the building, but during M. Belzoni's occasional absence at Cairo, he (Signore Athanasi) employed the whole of the people on the northern side, because he had observed that the entrance was on the northern front of the Great Pyramid; and, he adds, that M. Belzoni, on his return, approved of the arrangement. He then describes the great difficulties he had to contend with in removing the large blocks and the vast accumulation of materials with which the front of the Pyramid was encumbered; and states, that on the fifteenth day of their operations, when M. Belzoni was again absent (who, he says, remained at Cairo for six days at a time), one of the granite blocks forming the entrance was discovered,[6] of which he gave immediate information to M. Belzoni, who returned in consequence to Gizeh. He then says, that the passage was so full of earth and sand, that it was three days before they arrived at the portcullis: that the space beneath it was too small to admit M. Belzoni, and that an Arab (named Argian) first entered, and his accounts not being sufficiently explicit, that he (Sig. Athanasi) then contrived to get in, examined the chamber, and the sarcophagus, and saw the Arabic characters, of which he informed M. Belzoni. The portcullis was at length raised by levers to a sufficient height to admit M. Belzoni, who entered and took a plan of the apartment. M. Athanasi further states, that Mr. Salt returned in a few days after this discovery had been effected, from Upper Egypt, when M. Belzoni informed him that the work had been executed under a firman obtained in his own name. Signore Athanasi, however, states that he obtained the firman from the Kiayah Bey, in his capacity of dragoman to Mr. Salt,[7] and that these operations were made with money

[5] See Sig. Athanasi's statement.

[6] See M. Belzoni's account.

[7] He gives a curious account of the manner in which the firman was obtained.

advanced by Mr. Salt's treasurer, which, after the Pyramid was opened, M. Belzoni pretended to repay, saying that he had received it only as a loan. Signore Athanasi adds, "I, on the contrary, maintain that M. Belzoni would never have been able to have struck a single axe into the ground about the Pyramid, without the name of Mr. Salt; and that without the express order from the latter to his treasurer to supply us with money for the expenses, we could never have thought of attempting such an undertaking."

DR. RICHARDSON (1817),

In an account of his visit to the Great Pyramid, in company with the Earl and Countess of Belmore, Mr. Salt, &c. &c., says, that the base was about seven hundred feet; that the entrance-passage, three and a half feet square, descended at an angle of about 27°; that it was lined with polished blocks of red granite; and that cavities had been cut in the floor in order to afford a firm footing to a person descending, but that this appeared to have been a comparatively modern operation, as the cavities were not equally polished with the rest of the surface. After having descended about ninety-two feet, he entered a forced passage to the right, and came to a perpendicular block, eight or nine feet in height, which he surmounted, and ascended, by a passage about five feet high, for the length of one hundred feet, when he passed the well, on the right hand, in a recess about three feet wide, and afterwards proceeded, by a narrow passage about one hundred feet long, to the Queen's Chamber. This apartment contained a niche at the north-eastern corner,[8] and was seventeen feet long, fourteen feet wide, and twelve in height to the lower part of the ceiling, which was formed in a ridge. He then ascended to the King's Chamber, and says, that on each side of the gallery leading to it there was an abutment of a triangular shape, with the broad side buttressing against a breast-wall in front, and falling down to the floor in the form of an inclined

[8] This appears to be a mistake. The niche is on the eastern side, but towards the south-western corner of the room.

plane, and that the edge of this inclined plane was fourteen inches broad. He supposed that the perpendicular height of this gallery was about twenty-six feet, and its length about one hundred and twenty. Proceeding onwards from the top of this ascent, he entered, by a passage about twenty-four feet long, the King's Chamber, which was thirty-seven feet three inches long, seventeen feet two inches wide, and about twenty high. It was composed of highly polished masses of red granite, that reached from the floor to the ceiling,[9] which was formed of nine large flat blocks of the same material, extending from wall to wall. Towards the western end of this apartment, a sarcophagus of red granite had been sunk in the pavement, which had been partially removed in order to examine a small apartment beneath it. The length of the sarcophagus was seven feet six inches, the depth three feet three inches and a half, the breadth three feet three; and its interior dimensions proved that mankind were formerly of the same stature as they are at present. It was highly polished, but without hieroglyphics, sculpture, or ornament of any description; nor did he observe any in the chamber or in the Pyramid. The sarcophagus had not any lid, and contained merely a small quantity of dust, and a few pieces of broken stone. He was of opinion that it had been introduced into the chamber before the building was finished, although he perceived that its dimensions exactly corresponded with those of the passages. He observed a small tunnel at the south-western corner of the chamber, which sloped upwards as if to communicate with the external air; and he says, that round the sides of the chamber, at the bottom of the granite flags with which the walls are lined, a small groove, about ten inches wide, had been left, apparently for the insertion of the stones, and had not afterwards been filled up. He concluded that, as this chamber did not extend beyond the centre of the Pyramid, a passage might be concealed by one of the stones that formed the walls, and that it might lead to other apartments. He did not enter Davison's Chamber, but concluded, from what he had heard, that it had been formed to relieve the ceiling of the King's from the superincumbent weight of the building; and that, as it had a regular entrance, it was probably also intended to answer some other purpose. In descending to the subterraneous chamber, he passed the bottom of

[9] This account shews the excellence of the masonry. The blocks are in horizontal courses.

the well, and afterwards arrived at the end of the inclined passage, where he could perceive the open air at the entrance; and he observed, that at night the polar star might be distinctly seen from this point. The passage then became horizontal for twenty-eight feet, and entered a chamber, sixty-six feet long, twenty-seven feet wide, and between twelve and fourteen feet high, which was supposed to be exactly under the centre of the Pyramid, and considerably lower than its base. It appeared to be unfinished. He then mentions the passage to the southwards; and another, forty feet long, which proceeded from a species of arch in the eastern side of the Queen's Chamber.[1] He did not examine these passages himself; but, without the most positive and undoubted authority to the contrary, he is inclined to believe that they continued on, and ultimately communicated with the open air, and were intended for secret communications. The chamber, although recently opened by M. Caviglia, appeared to have been frequently visited in former times, as it was covered with smoke, and as some Roman characters had been written on the ceiling with the smoke of a candle. It appeared to the author to have been alluded to by antient historians, but it did not answer the description of Herodotus. Dr. Richardson considered that this apartment must have been of importance, from its great dimensions and from its form, and also from the care that had been taken in constructing the passage, which he observed was lined with finely polished slabs of syenite, behind which, he conceives, other communications may exist. He concludes, as all the chambers already known (with the exception of the subterraneous apartment) are on the west of the entrance-passage, that the other three spaces have their chambers also; and he is surprised that no attempt has been made to discover a passage entering from the southern, eastern, or western sides of the edifice, particularly on the southern, where a door might be concealed under the rubbish, which a careful examination would discover. He conceives also, that the small tunnel from the King's Chamber may communicate with other chambers, or with the open air. He does not believe that the Pyramids were intended for astronomical purposes, because the passages were closed up with masonry, and

[1] There are many inaccuracies in this narrative. The passage said to pass under an arch is a mistake. No such communication exists. In Mr. Salt's manuscript, the excavation under the niche in the Queen's Chamber is said to have been cleared out by M. Caviglia, and part of this account must have been copied from it.

could not therefore have been used for that purpose; and because in all of them the passages are from the north, although there are objects equally worthy of observation in other parts of the heavens. He says, that the well was one hundred and fifty feet deep, and about three feet wide; and that it was furnished with holes on the sides to enable people to pass through it.

After having examined the interior, he ascended the outside of the Pyramid (at the north-eastern angle), and in doing so, observed on the eastern side a perpendicular part about four feet wide and six feet high, which appeared to conceal a door. The summit was a square of twenty-five or thirty feet. He is of opinion that the Great Pyramid had been cased, although he did not discover any remains of the casing stones; and remarks, that Herodotus said that none of the stones were less than thirty feet, and that it was finished from the top, &c.,—an account which does not at all accord with the present state of the Great Pyramid, nor with that of any other at Gizeh. He conceives it would be worth while to compare this description with the Pyramids of Abooseer, as they are coated, and as one of them may certainly be called central, which, at Gizeh, can only be said of the Second Pyramid.

He quotes from Abdallatif, that Melicalaziz Othman Ben Yousouf, in the year 1196, attempted to pull down the Third Pyramid; but that, after eight months of ineffectual labour, he failed in the undertaking; and he remarks, that the Arab historians record several other similar attempts; and that they relate, that the Great Pyramid was opened by Caliph Abdallah Mamoon, son of Haroun el Raschid, who employed for that purpose fire and vinegar; but he thinks it more probable that the Caliph Mohdi (Mohammed), whose name was found in the Second, opened both. He supposes that the excavations, near the eastern front of the Great Pyramid, were in some way connected with the tomb of Cheops, as described by Herodotus; and he is surprised that they had not been examined.[2] The account given by Abdallatif of the hieroglyphics inscribed upon the Pyramids, applied, in his opinion, to the inscriptions in the neighbouring tombs: and he doubts whether any were inscribed on the casing stones, because none had been found in the interior, nor upon any of the fragments or blocks connected with them, nor upon the coating that yet remains on the Second and on the Third Pyramids. Neither are

[2] They have been examined by Mr. Salt.

there any inscriptions upon those of Abouseer, Saccara, and Dashoor; nor upon a sarcophagus, of the same shape and material as that in the Great Pyramid, which was in a tomb where he slept at Gizeh; nor has any, he remarks, been found upon the Sphinx, except those of a comparatively modern date, namely, of the time of the Romans: and he concludes, that the absence of these sculptures on the Pyramids was owing to the hostility of the kings who built them to the religion of the country.

After several observations, he states, that Cheops reigned 1032 years B.C., and that after Chephren, his brother, and Cherinus or Mycerinus, his son, a chasm of 151 years ensued in Egyptian chronology, to the time of Asychis, the first king of the sixth dynasty, after which the accounts continue down to the Persian Conquest; and he is inclined to attribute this chasm, the absence of hieroglyphics on the Pyramids, and the silence observed in the Bible, and also in Homer's poems, respecting these buildings, to the detestation in which the memory of their founders, who were not buried in them, was held on account of their impiety; and he supposes, that the buildings were considered as unhallowed and accursed.

He remarks the skill with which they are constructed, and how wonderfully they have endured the ravages of time, and the violence of successive generations. He observes, that the materials of the Great Pyramid were taken partly from the rock upon which it stands, and partly from the quarries in the Mokattam.

The Second Pyramid appeared to be built of the same materials, but to stand upon higher ground; it was forty feet lower than the Great Pyramid, which is, in its present state, four hundred and eighty feet high, which, with the addition of sixteen feet for the completion of the summit, coincides with the statement of Herodotus. The height of the Second Pyramid he conceives to be four hundred and fifty-six feet. He observes, that the rock had been cut down and levelled on the western, and in some degree also on the northern and southern sides of it, and that several blocks of granite were lying around it, but that the casing which remained was of fine lime-stone.

The Third Pyramid he found greatly dilapidated, and surrounded with masses of granite. He adds, that he observed many ruined foundations, and the remains of other Pyramids, some of which had been entirely destroyed, and the materials carried away; and that the whole of the adjoining ground was

filled with excavations, mausolea, and antient structures of the most interesting nature. In fact, that the whole country, to Dashoor, was one vast cemetery, but that most of the tombs had been opened and plundered, and at present were overwhelmed by an accumulation of the desert sand, and inhabited by wild animals, reptiles, and bats.

THE AUTHOR OF "RECOLLECTIONS OF THE PENINSULA," &c. (1823),

Visited the Pyramids, in his return by Egypt from India. He examined the King's, Queen's, and Davison's Chambers, and went down the well, (which he says is one hundred and fifty-five feet in depth). He also ascended the Great Pyramid, an operation, which, he remarks, may be performed without the least risk. He then went into the Second Pyramid, and beheld with admiration and surprise, the beauty of the polished granite, and the fine masonry of the descending passage; and he considered that great praise was due to Signore Caviglia, and to Signore Belzoni for the discoveries, they had made in these buildings. He likewise mentions the adjacent tombs, and the hieroglyphics, with which they are adorned; and remarks, *that the costume of* the several figures, and the peculiar manner, in which the cloth is disposed around their waists, are completely Indian. He afterwards adverts to the various accounts, which have been given of these mighty structures, that they were the Tombs of Cheops, and of Chephren, or of Seth and of Enoch; and also to Dr. Clarke's supposition, that the Great Pyramid was the Tomb of Joseph.

MR. WEBSTER (1827)

Does not enter into much detail. He ascended the Great Pyramid at the north-eastern angle, and observed that the summit was about thirty-three feet square. He considers that both the Great and the Second Pyramids were originally cased. The entrance-passage of the former, he describes to be a square of

three or four feet, and to be lined with granite; he states that the King's Apartment containing the sarcophagus is in the centre of the Pyramid; and that the Chamber of the Queen below it contains a niche, in which a mummy is supposed to have been placed. He adds, that the Second and Third Pyramids were not open;[3] and that the summit of the former was inaccessible from sand and rubbish.

MR. WILKINSON (1831),

In his book on Thebes and on Egypt remarks, that the Great Pyramid of Cheops, or rather of Suphis, covered originally an area of 570,000 square feet. The square of the base in its present state is about seven hundred and thirty-two feet, and its height four hundred and seventy-four feet; if entire the total height would be four hundred and ninety-four, and with the casing, five hundred and two feet. The coating of the Third Pyramid was of granite, that of the others of limestone; the entrance of the Great Pyramid is nearly in the centre of the northern front, and the passage, descending at an angle of 27°, terminates in an unfinished chamber below the level of the ground. About one hundred feet from the entrance, the descending passage is joined by an upper one ascending at the same angle to the Great Gallery, when it runs horizontally into the Queen's Chamber. The Gallery itself continues, also at an angle of 27°, to the King's Chamber, which is lined with granite, and defended by four portcullises from one foot four to one foot ten inches thick. The Sarcophagus is of red granite, seven feet four inches by three feet, and only three inches less than the width of the door, through which it must have been introduced by a screw, unless it was built in when the edifice was constructed. At the bottom of the Great Gallery is the well, by which the workmen descended in order to go out of the Pyramid by the lower passage, after they had closed the upper with blocks of granite; the lower end of which was

[3] The Second Pyramid was open, but the Arabs are in the habit of filling the entrance with stones and rubbish, that they may be paid for removing them by strangers, who are desirous of examining the interior of the Pyramids.

probably concealed from observation by a triangular piece of limestone, fitted into the ceiling at its junction with the descending passage. He conceives, that those who opened the Pyramid did so by the regular entrance, and, upon discovering the granite blocks at the junction of the two passages, made, in order to avoid them, the forced passage, by which the entrance into the Great Gallery is at present effected. His opinions respecting any other hidden chambers or passages, that might have been then undiscovered, were as follows:—"Several other chambers and passages, that may be hitherto undiscovered, no doubt exist in the upper part of the Pyramid, and one[4] seems to me to be connected with the summit of the Great Gallery. I suppose it first to run upwards in a contrary direction to the north from that end, which is above the well, where a block, apparently of granite, projects at the complement of the usual angle of these passages. It probably turns afterwards, and extends in a southerly direction over the Great Gallery. Above what is called the King's Chamber, is a low room,[5] I may say *entresol*, which should support another similar chamber, and the stone at the south-west corner of it has probably been let in after the workmen had closed the above-mentioned passage, so that this room served also as an outlet from the upper apartments, as the well from those about the Great Gallery." He states, that the Pyramid was said to have been opened by the Caliph Mamoon about the year 820; and that the long forced passage to the east,[6] and below the level of the present entrance, is supposed to have been made at that time.

He further states with respect to the hieroglyphics:—"It has always been a matter of surprise, that no hieroglyphics are met with either in the interior or on the exterior of the Pyramids, and that, above all, the sarcophagus should be destitute of those sacred characters so generally found on Egyptian monuments. Herodotus says, he saw an inscription on the front,[7] and by his account it seems to have been in the Enchorial or in the

[4] The tubes in the Great Chamber may possibly communicate with this passage over the Great Gallery.

[5] "Called Davison's Chamber, in honour of its first discoverer."

[6] East, erratum for "west."

[7] Abd-El-Azees also mentions hieroglyphics on the Great Pyramid; he is generally very accurate, but the authority of Arab writers can seldom be relied upon.

Hieratic characters; but the Enchorial did not exist at the time of its erection, and the Hieratic from not being monumental would scarcely have been used for such a purpose. His figures of animals on the causeway appear to allude more particularly to hieroglyphics; but, as the exteriors both of the causeways and the Pyramids are lost, we cannot now decide this question. At all events we may be certain, that the stones, mentioned by some writers in the walls of the adjacent tombs, were not taken from the Pyramids, nor any one of them anterior in date to the Great Pyramid,[8] since their position is evidently regulated by the direction of that monument. In the hieroglyphic inscriptions of the tombs the names of the kings are of very great antiquity,—long before the accession of the Sixteenth Dynasty, and we may trace, in one instance, a name very much resembling that of Suphis, the supposed founder of the Great Pyramid; some of the royal ovals are preceded by the title of priest instead of king, which occurs again in some of the oldest tombs in Upper Egypt; and this fact alone would suffice to prove their great antiquity, and consequently *à fortiori*, that of the Pyramids themselves.[9] I do not pretend to explain or decide the real object for which these stupendous monuments were constructed, but

[8] "Contrary to the opinion of some who suppose, from the Pyramids not being mentioned in the Bible, or in Homer, that they did not exist before the exodus, or in the time of that poet, the presence of the name of Remeses the Great (who preceded the Trojan war), in a very secondary position, sufficiently answers the latter objection."

[9] "The Second was opened by Belzoni, in 1818, but he found from an inscription in the chamber, that it had been entered before, and reclosed by the Sultan Alee-Mahommed. Strabo says, the Great Pyramid was closed by a stone fitted into the mouth of the passage: and a further proof of its having been opened before the time of Caliph Mamoon is drawn from Pliny, who speaks of a well of eighty-six cubits in depth, by which it was supposed that the Nile water was admitted. Eighty-six cubits, or one hundred and twenty-nine feet, do not, however, agree with the depth of what is now called the well, which is nearly two hundred feet; and it is possible that he is speaking of the lower passage, which in his time may have been cleared only to that distance: at all events we must conclude, that the Pyramid had been purposely or accidentally closed before the time of the Caliph. With regard to the admission of the water of the Nile mentioned by Herodotus, the much lower level of the river at once prevents the possibility of its being introduced into the Pyramid, the base of which is even now upwards of a hundred feet above the surface of the water during the inundation, and must have been more in the time of Herodotus, and still more again at the period of its erection. Pliny, who was not led away by credulity and want of judgment, justly questions the story, and observes that the Nile is much lower."

feel persuaded that they may have served for tombs; and also have been intended for astronomical purposes, for though it is in vain to look for the pole star at the bottom of a passage descending at an angle of 27°, or to imagine that a close passage, or a pyramid covered with a smooth and inaccessible casing was intended for an observatory, yet the form of the exterior might lead to useful calculations. They stand exactly due north and south, and, while the direction of the faces east and west might serve to fix the return of a certain period of the year, the shadow cast by the sun, or the time of its coinciding with their slope, might be observed for a similar purpose. The style of building in the Second Pyramid is inferior to that of the First; and the stones used in its construction were less carefully selected, though united with nearly the same kind of cement: nor were all the stones of either Pyramid brought from the quarries in the Arabian mountains; but the outer tier or casing was composed of blocks hewn from their compact strata. This casing, part of which still remains on the Second Pyramid of Chephren, or Sensuphis, is in fact merely formed by levelling or plaining down the upper angle of the projecting steps,[1] and was consequently, as Herodotus very justly observes, commenced from the summit. The passages in the Second Pyramid are very similar to those of the First, but there is no gallery, and they lead only to one main chamber, in which is a Sarcophagus sunk in the floor; it is remarkable that this Pyramid appears to have had two entrances, an upper one by which you now enter, and another about sixty feet below it, which is still unopened. One hundred and thirty feet from the mouth of the upper one was a granite portcullis, and the other was closed in the same manner about one hundred feet from its entrance. A little beyond the latter portcullis is a long narrow chamber, and the passage is afterwards united with the upper one by an ascending talus. The actual height of the Second Pyramid is about four hundred and thirty-nine feet, and the length of its base six hundred and ninety; but if entire, its height would be increased to about four hundred and sixty-six feet. The Third Pyramid of Mycerinus, Moscheris, or Mecbe-

[1] "Being misled by the usual notion of an actual casing finished from the summit, I ascended the Second Pyramid in the vain hope of discovering some clue to the position of the stones which might decide this point; but the subsequent examination of other Egyptian buildings without a similar risk fully explained its fallacy, in the manner, I have already noticed."

tinus,[2] has not yet been opened; it differs from the other two being built in almost perpendicular degrees, to which a sloping face has been afterwards added; the outer layers are of red granite, and many of them still remain; nor can we doubt the justness of Pliny's remark, when he says, the Third, though much smaller than the other two, was much more elegant from the Ethiopian stone (granite of Es Souan) that clothed it; the exterior of the lowest row of the Second was also of the same stone, which is testified by the blocks and fragments, that lie scattered about its base, and by the evidence of Herodotus." He afterwards states, that there is an Arabic inscription on the top of the Second Pyramid; and that the Pyramid said to have been built by the daughter of Cheops stands,[3] as Herodotus observed, in the centre of the three to the eastward of the great one. He adds, that, besides the three Great Pyramids, there are six of smaller dimensions, and the vestiges of a seventh.

He alludes, also, to the antient authorities respecting the fossils and petrifactions found in the stone, and other particulars.

MR. ST. JOHN

Visited Gizeh in the year 1832, in his way to Upper Egypt. He appears to have been wonderfully struck with the majestic appearance of the Pyramids, which, he says, Cheops and his successors erected as temples to Venus, on a rocky eminence about one hundred feet above the level of the Egyptian plain. He ascended by the usual path (namely, the north-eastern angle) to the top of the Great Pyramid, and considered, that the operation was attended with some danger, and that the

[2] "Diodorus says, the name of this king was written on its northern face."

[3] "The date of the Pyramids given by Herodotus is evidently very erroneous, since he places Cheops after Mœris and Sesostris. Suphis is also said to have been the founder of the First Pyramid; as Sensuphis, his brother, of the Second; and Moscheris or Mencheres of the Third; and the era of these monarchs, about 2090 years before Christ, is much more to be trusted to than that of Herodotus. Diodorus says they were erected 1000 years before his time. Perhaps this Sesostris is the one I have mentioned in a note on Remeses the Second in my 'Chronological List of Kings.'"

death of Mr. Mayo was not to be wondered at.* He then examined the interior, and describes the passage as being "cased with slabs of Oriental porphyry, finely polished, and so exquisitely fitted to each other as to seem but one piece. Having reached," he observes, "a certain depth, we climbed over a high slippery rock overhanging the mouth of the well, and entered the adit leading to the King's Chamber. This narrow smooth corridor, which mounts with a steep ascent, is cased like the former with porphyry; we passed over the mouth of the entrance to the Queen's Chamber, which lies directly under that of the King's; notches cut in the pavement enabled us to fix our footsteps, and, after groping along for a considerable time through dust and heat, we arrived at a level passage of no great length, which led directly into the Royal Chamber."

Mr. St. John does not seem to consider that the coffer of granite had been a sarcophagus. He remarked, in the southern wall of the King's Chamber, a small niche, which he considered was for mysterious purposes. The ceiling was formed of blocks of stone three feet broad, "and, being alternately of a lighter and darker grain, gave the roof the appearance of being painted in broad stripes of different colours. We found the length of the apartment to be about thirty-nine feet, the breadth about eighteen, and the height about twenty-two, in the north-west corner there were two small square cavities sunk in the floor, and probably of great depth; they were now nearly filled with dust; their use we could not conjecture." He conceived, from the echoes produced by the firing of a pistol, that many undiscovered chambers and passages still existed.

He then descended to the Queen's Apartment, and found that it was considerably smaller than the other, and that its ceiling was inclined. As he was not furnished with a ladder, he could not examine Davison's Chamber; neither did he, at that time, enter the Second Pyramid: but, from a cursory examination of its exterior, it appeared to him probable that many subterraneous passages existed between the Great and Second Pyramids.

On his return from Upper Egypt, he again went to Gizeh, and entered the Second Pyramid. He observes, that the passages were beautifully cased with Oriental porphyry, and that in the floor of the large Chamber there was a sarcophagus, in which bones were found, said to have been those of an ox, but which, he imagines,

* This unfortunate accident is the only one on record.

were those of a cow, and therefore a strong proof, that, contrary to the received opinion, the Pyramids were not tombs. He found that the Arabic inscription, mentioned by Belzoni, was no longer legible; and that a lower descending passage, which, he supposed, led to many other excavated chambers, was filled up with large stones and rubbish. He adds, that, although attended with some danger, the ascent to the top of this Pyramid had several times been effected. He then discusses, with considerable detail, the various opinions, that had been entertained, respecting the purpose for which the Pyramids were intended,—for observatories, for tombs, for treasuries, or granaries; and he conceives, that they could not have been intended for observatories, on account of the number of them, and from their having been covered with a smooth casing; neither for granaries, on account of their construction, and also of their exposed situation in the desert. He thinks the suggestion that they were tombs more probable, although he does not coincide with that opinion, as he considers that they were temples erected to the worship of Athor, Aphrodite, or Venus, which was introduced by Cheops, who, out of respect for that deity, closed up the temples, and interdicted the national worship already established, and thereby incurred the hatred of the priests, as mentioned by Herodotus; which, he conceives, would not have been the case if he had merely built himself a tomb. He considers the tradition respecting Cheops's daughter, another proof that the worship of Athor was thus observed, and that the Pyramids were temples. He says, that although Herodotus stated, upon the authority of the priests, that the body of Cheops was entombed in the Great Pyramid, he could not have been informed by them that the Second Pyramid was a sepulchre, because he expressly said that it was not furnished with subterraneous apartments like the great one. He also remarks, that Diodorus was informed by the priests, that although these buildings were intended for tombs, yet, from apprehension of the hatred of the people, the bodies of the kings were not actually deposited within them; a statement, which, although not entirely true, yet sufficiently establishes the fact that no person has ever been entombed in them. The Arab account, cited by Greaves, he wholly discards, and imagines that the sarcophagus in the King's Chamber was intended to receive the embalmed body of a cow, the symbol of Athor, or Venus. He then remarks, that although Mycerinus permitted the temples to be opened, and the priests to resume their functions, yet that he also erected a pyramid to Athor, and that, when his only daughter

died, instead of being buried in a pyramid, she was entombed, according to Herodotus, in the image of a heifer, which was brought out once a-year, with religious rites and ceremonies, which have a direct allusion to the above-mentioned worship. He then enters into a detail respecting the forms, under which Nature, or the creative power, has been worshipped in the East, and also respecting the Pyramids at Benares; and asserts, that the narrow and difficult passages in the Great Pyramid of Gizeh were intended to impress the votaries, who resorted there, with additional awe; and says, that similar narrow passages have been found at Delphi, at the Oracle of Trophonius, and elsewhere. He likewise remarks, that on his describing the Great Pyramid to some learned Brahmins, they immediately said that it was a temple, and asked if there was not a communication underground with the river Kali (the Nile); for that, in this case, it must have been intended for the worship of Pad Madévi, and that the sarcophagus was a sacred trough, filled by the priests, on certain festivals, with sacramental water, and with lotus-flowers.[5]

MANUEL, *Encyclopédique et Pittoresque des Sciences et des Arts. Paris*, 1835.

In this work, notice is taken of the Pyramids, and the following dimensions are given of the Great Pyramid (no doubt in French measure):—

	Feet.	Inches.
Great Pyramid,—visible base on the northern side -	660	0
Height - - - - -	460	0
Height of stones, from 1 foot 8 inches to 4 feet 4 inches.		
The entrance, on the northern side, is above the base	43	0
Height and breadth of entrance - -	3	4
Length of four great stones over the entrance -	12	2
Length of passage - - -	67	2

[5] A similar opinion was given by the Indians who arrived in Egypt with Sir David Baird's corps from Bombay.

	Feet.	Inches.
Great stone over the entrance, and under the four already mentioned.		
Length	25	0
Breadth	5	0
Thickness	4½	0
The forced passage to the right leads up to the ascending passage to the height of	6	0
Of the same angle and dimensions as the former, and in length	102	0
A space then occurs (in which is the mouth of the well) of	14	0
The passage, leading to the King's Chamber	7	2
On each side is a ramp, in height	1	9
The gallery.		
Length	124	0
Height of step at the top of it	2	9
Landing-place, in length	4	9
Passage of portcullis.		
Width	4	0
Length	9	0
Height	13	0
The portcullises are then described; and the height under the great stone of granite is	3	4
Passage leading to the King's Chamber	4	0
King's Chamber, north side, in length	30	9
— southern side, in length	31	0
— eastern side, in length	15	6
— western side, in length	15	5
Height	17	8
Sarcophagus.		
Length	7	0
Width	3	1
Height	3	5
Depth	2	11
Thickness of the sides	0	6
Davison's Chamber of the same dimensions as the King's; but its height is only	3	1
Length of horizontal passage, leading to the Queen's Chamber	119	5
Queen's Chamber.		
Length	15	9
Height	19	0
It is said to be full of rubbish.		
Well; width of opening	3	2

	Feet.	Inches.
Well; first shaft	85	0
— second shaft	48	10
— total depth	190	0
— depth to grotto from the top	28	0
— breadth of it	14	0
It is said to be cased with calcareous stone.		
The Second Pyramid is nearly of the same size as the Great, and retains some of its casing.		
Northern base	625	0
Height	412	0
The Third Pyramid has been cased with granite.		
Number of ranges of stone, seventy-eight.		
Height	160	0
Northern base	308	0

CAPTAIN SCOTT (1837),

In an account of Egypt, amongst various remarks and conjectures, says, that Belzoni's admeasurements of the Great Pyramid are the most correct; that, when he visited that building, fourteen stones alone remained on the top of it, and that the walls of the passages and chambers were not composed of cement, but of granite. He considers that the Second Pyramid is the one said by Herodotus to have been built by Cheops, and to have been surrounded by the waters of the Nile; because the Great Pyramid has never been covered over, and because the Second has been entirely cased, and is the highest, although it appeared to him to stand on lower ground. He conceives that the Pyramids were built by Sesostris and his successors, and not by Cheops and Chephren. He again expresses his belief that the Second Pyramid was the one said to have been completed from the top, and that the Great one was built afterwards, and was never completed. He then describes the chamber and passages in the Second Pyramid, and likewise the excavated grottoes in the rock to the westward of it, and he considers the area to have been a foss for the waters of the Nile. He likewise gives the different admeasurements, which various authors, antient and modern have taken, and which have been already inserted.

MR. AGNEW

Published, in 1838, a treatise on the application of the quadrature of the circle to the configuration of the Great Pyramids of Gizeh, which, together with the causeway, he considers to be "component parts of one immense system;" and says, "that the whole of the immense scheme of the three Pyramids proceeded from a chief circle of origin, the properties of which were more especially to be represented." He also observes in another place, that "the Pyramids of Egypt appear in general to have been emblems of the sacred sphere, and of its great circle, exhibited in the most convenient architectural form;" and adds, that "the chief object of these buildings being to serve for sepulchral monuments, the Egyptians sought, in the appropriate figure of the Pyramid, to perpetuate, at the same time, a portion of their geometrical science." He imagines, that the three in question were built in succession during the course of sixty years, and that each was begun before the preceding was finished; that the third monarch, under whom the whole design was completed, dismissed the people from their labours, and again opened the temples for the national worship. He then goes into a variety of calculations demonstrated by geometrical figures to support these opinions, and to prove that the quadrature of the circle was known, "with all practicable approach to exactness," by the antient Egyptians; and that in the bases, proportions, and relative positions of these three Pyramids, and also in the size and course of the northern causeway, and in those of the adjoining pits, certain geometrical rules were attended to. For the causeway belonging to the Third Pyramid he attributes other reasons.

He assigns to the interior of the Pyramids also mysterious properties; but observes, that in their construction "the proportion of five to four is very dominant;" and he endeavours to prove that it might have referred to astronomical calculations, which may shew the æra when these buildings were erected. He likewise supposes, that the labyrinth near lake Mœris was constructed on "some curious combination of geometrical figures, relating to a sphere and circle, the radius of which was the perpendicular of the forty-fathom Pyramid, which stood at one end;" and that all the great buildings of Egypt, besides their primary and special use, elucidated in their construction geometrical science. To understand clearly, however, the author's

ideas, a reference to the book is absolutely necessary. The following remarks on the Three Pyramids are, therefore, only added.

THE GREAT PYRAMID.

The author having quoted from Pliny, "est autem saxo naturali elaborata et lubricata," in support of his opinion that the exterior of the Pyramid had been originally saturated with some fluid, such as oil or varnish,[6] observes, that the liquid, whatever it may have been, appears to have been transparent, and nearly colourless; and that the brownish tinge upon the stones, which formed the casing, has been acquired by time. He does not conceive that any part of the Pyramids had been painted red, or it would have been mentioned by Herodotus, and by other antient authors, although the pavements and steps around them may have been stained with some dark colour. He is of opinion, that the Great Pyramid had been revetted in the same manner as the Second, because he has seen fragments of stones precisely similar to those, which covered that building, the external faces of which had been "lubricated." With respect to the interior of this Pyramid, he found the angle of entrance to be 26° 34′; and, referring to a diagram, proceeds with many conjectures and calculations, which it is not necessary to detail. He is of opinion, that many other apartments, besides those already known, exist; and that more than one person was interred in the edifice; that several pits and deep channels, with places on their sides for the reception of mummies, have been excavated in concentric squares, the area of each diminishing by one-half successively; and that, by the extent of these works, the length of time taken up in their construction might be ascertained. He imagines that there must be a second entrance at the base, either at the northern, or eastern side; and mentions the grotto in the well, and several other points, where apartments and passages might probably be found.

THE SECOND PYRAMID.

He considers, that the exterior is steeper by one degree than that of the Great one; and that its summit is higher above the

[6] The word "lubricata" simply means a surface polished, or made slippery, and does not infer that oil or liquid of any kind had been applied to produce the effect.

horizon, although the Great Pyramid is the more lofty, owing to a base upon which the Second is built, as it is situated upon a high perpendicular platform beyond the pavement, and is surrounded with three squares or steps, which bear certain proportions to the sphere or circle; and this, he imagines, to have been likewise the case with the steps around the other two Pyramids. The step of the Second Pyramid is five feet high, and seven feet from the perpendicular of the edge of the base, and the platform of rock is about ten or eleven feet above the inner surface.[7] This he considers was the πρωτον δομον of granite described by Herodotus. He conceives that there were two ranges of granite, and that the inner step was also of that material. After other observations, he says, that the dark colour of the casing has led many people to believe that it was painted.

THE THIRD PYRAMID.

He is of opinion that the granite casing, mentioned by antient authors as extending half-way, was ninety-two feet high; and that it had some mysterious signification: that the size of the building was regulated by that of the other two; and that, from an examination of the granite blocks, which formerly composed its revetment, he found that the angle of its elevation indicated a perfection of form superior to that of each of the other Pyramids, and that it was nearly a medium between them: that its perpendicular height was the radius of a circle, the circumference of which was equal to the square of the base; and that this Pyramid was an emanation, or spirit, and essence from the first great principle of the system, namely, the circle of origin; and also that its relative position was determined by some fixed law, and not by mere convenience.

The exterior of the upper part did not appear to have been covered with painted stucco, but to have been saturated with some fluid like those of the other Pyramids; and the contrast of the two colours must, in his opinion, have had a good effect.

[7] It has been already observed, that the calculations contained in Mr. Agnew's book should be examined in order to comprehend the full meaning of its author.

ABOU MA'SHER JA'FER BEN MOHAMMED BALKHI,

AN ASTROLOGER. DIED, 272 A.H.

(*Bod. Lib. MS.* 392.)

THE wise men, previous to the flood, foreseeing an impending judgment from heaven either by submersion or by fire, which would destroy every created being, built upon the tops of the mountains and in Upper Egypt many pyramids of stone, in order to have some refuge against the approaching calamity. Two of these buildings exceeded the rest in height, being four hundred cubits high, and as many broad, and as many long. They were built with large blocks of marble. The length and breadth of each stone was from eight to ten cubits square; and they were so well put together that the joints were scarcely perceptible. Upon the exterior of the building, every charm and wonder of physic was inscribed in the Mosannad character;[a] and likewise this declaration—"I have built them, and whoever considers himself powerful, may try to destroy them; let him however reflect, that to destroy is easier than to build."

[a] The original is خط المُسَنَّد The Camoos (Arabic Dictionary) says, that مُسَنَّد, fourth conjugation—which means literally "propped," "supported"—is the name of the Himyaritic character, perhaps so called in opposition to the Ta'lik, *i.e.* "hanging," or "Persian character," to designate that it is more fixed and fitter for inscription upon stone; but as we find here the word in the second conjugation, which often answers to our "ize," in Germanize, and the Greek ιζω, in ελληνιζω, it may be derived from سند "Sind," the Arabic name for Western India. This is the more probable, as this word is used in the Mirat-ezzeman as an adjective, with the word Himyaritic. The Manahij Alfikr likewise terms a sort of writing "Sind," بالسند De Sacy, in "Abd Allatif," p. 222, reads it in Makrizi, (where he quotes Ebn Khordadbeh,) "Masnud:" but I cannot discover this expression, either in the copy of Makrisi, or in that of Ebn Khordadbeh, which are preserved in the Bodleian Library.*—*Dr. Sprenger.*

* The references occasionally introduced in the notes are generally taken from the Arabic MSS. of the Bodleian Library, which are inserted in Uri's and Nicol's catalogues; it is therefore unnecessary to give more than the name or number of the MS. There are few quotations from the printed books, which relate to Arabic historians, as no additional information was to be expected from them.—*Dr. Sprenger.*

The author[9] further narrates that one of the caliphs intended to take them down, in order to ascertain what they contained, but that it was calculated that the riches of all the world would not be sufficient to defray the expense; and he also mentions the tradition, that Joseph used those buildings as granaries.

EBN KHORDADBEH,

DIED ABOUT 300 A.H.

(*Uri's Cat.* 993, *MS. Arab.*)

GIVES the same account as Abou Ma'sher, excepting the destruction of the Pyramids by the caliph.

SIR WILLIAM OUSELEY,

(*Oriental Geography.*[1] *London*, 1800).

ABOUT the distance of two farsangs from Fostat, there are some antient structures, called Ahouan[2]—two of them are of a great height, namely, four hundred cubits, and are called Haraman—and on the walls the following inscription is written in Greek:—"The building of Haraman and Sertaier (was) in the sign of Cancer."[3] These buildings are quadrangular and gradually

[9] This author is quoted by Kazwini, and also by Ebn Abou Osaiba (MSS. in British Museum), but they do not mention the intention of the caliph to destroy the Pyramids, which is probably, therefore, an interpolation in the MS. at Oxford. —*Dr. Sprenger.*

[1] This is a translation of an antient author, who lived, according to De Sacy (the translator of "Abd Allatif," and of other Eastern writers,) about 309 A.H.—*Dr. Sprenger.*

[2] It should be Ahram.—*Dr. Sprenger.*

[3] This is evidently a very incorrect reading. I presume it ought to be "the two Pyramids"—were built as the ♐Eagle—was in Cancer. It is to be regretted that Sir William Ouseley had never seen a fine copy of the work he has translated, (No. 615, in the library at the India House,) as it is very well written, and contains the maps referred to in the MSS. from which he translated.—*Dr. Sprenger.*

diminish towards their summits, which are large enough for a camel to stand upon. Within them are passages, which are difficult of access; and subterraneous chambers, supposed, with great probability, to have been the sepulchres of antient kings.

ABOU RIHAN MOHAMMED BEN AHMED AL KHAWAREZMI,

DIED AFTER THE YEAR 430, A.H.

This author is quoted by various Arabian authorities: he is stated in the MS. of Yakut to have affirmed, that "the Persians and Magians in general denied that the deluge had taken place;" but he does not afford any particular information.

MASOUDI,[*]

DIED 345 A.H.

The manuscript of the Akbar Ezzeman, at Oxford, was so much decayed, that recourse has been had to the works of other authors, who have given the same account in nearly the same words—namely, to Makrizi, who quotes from Usted Ibrahim Ben

[*] M. Jomard concludes from this author, that the Pyramids were covered with continuous inscriptions, written by nations long since perished; and he appears to consider that this account is correct, particularly as it is corroborated by Ebn Haukal, and likewise by William De Baldensel,* who lived in the fourteenth century, and said, that he saw inscriptions in various characters upon the two larger Pyramids. It is to be remarked, however, that this only proves that some part of them had been written upon; and other authors have mentioned Latin verses, &c., that had been inscribed in the same manner as the names of travellers, which are now to be seen upon the top of the Great Pyramid. M. Jomard then states, upon the authority of Dionysius Telmahre, that the Pyramids were solid buildings, erected over the tombs of antient kings; and from the same author, that the height of the Pyramids was two hundred and fifty cubits, and that their bases were squares of five hundred cubits; and also that he had examined an excavation fifty cubits deep, which had been made in one of them, and found that it had been built of hewn stones, from five to ten cubits in length.

* M. Jomard seems to have taken this account from M. De Sacy.

Wasyff Shah; to Soyuti; to a MS. (No. 7503) in the British Museum, entitled "The Odour of Flowers," or "the Wonders of Different Countries, by Mohammed Ben Ayas;" to a Turkish "History of Egypt," MS. (7861) in British Museum, written 1089, A.H.; and to Yakut, MS. in the Bodleian Library.

Masoudi's account professes to relate the Coptic tradition, which says, "That Surid, Ben Shaluk, Ben Sermuni, Ben Termidun, Ben Tedresan, Ben Sal, one of the kings of Egypt before the flood, built the two great Pyramids; and, notwithstanding they were subsequently named after a person called Sheddad Ben Ad, that they were not built by the Adites, who could not conquer Egypt, on account of the powers, which the Egyptians possessed by means of enchantment; that the reason for building the Pyramids was the following dream, which happened to Surid three hundred years previous to the flood. It appeared to him, that the earth was overthrown, and that the inhabitants were laid prostrate upon it; that the stars wandered confusedly from their courses, and clashed together with a tremendous noise. The king, although greatly affected by this vision, did not disclose it to any person, but was conscious that some great event was about to take place. Soon afterwards in another vision, he saw the fixed stars descend upon the earth in the form of white birds, and seizing the people, enclose them in a cleft between two great mountains, which shut upon them. The stars were dark, and veiled with smoke. The king awoke in great consternation, and repaired to the temple of the sun, where, with great lamentations, he prostrated himself in the dust. Early in the morning he assembled the chief priests from all the nomes of Egypt, a hundred and thirty in number; no other persons were admitted to this assembly, when he related his first and second vision. The interpretation was declared to announce, "that some great event would take place."

The high priest, whose name was Philimon or Iklimon, spoke as follows:—"Grand and mysterious are thy dreams: The visions of the king will not prove deceptive, for sacred is his majesty.[6] I.

[6] These words and the designation of the high-priests, and the general tenour of the story are not Arabic. The king is represented as being of a superior order, and the sacred organ of the priests; but the caliphs, and even Mahomet, however greatly reverenced by Mahometans, are always considered mere human beings; and although the caliphs were invested with supreme authority, their viziers and councils confined their deliberations to politics, and did not interfere with religious affairs.—*Dr. Sprenger.*

will now declare unto the king a dream, which I also had a year ago, but which I have not imparted to any human being." The king said, "Relate it, O Philimon."[7] The high-priest accordingly began: — "I was sitting with the king upon the tower of Amasis. The firmament descended from above till it overshadowed us like a vault. The king raised his hands in supplication to the heavenly bodies, whose brightness was obscured in a mysterious and threatening manner. The people ran to the palace to implore the king's protection; who in great alarm again raised his hands towards the heavens, and ordered me to do the same; and behold, a bright opening appeared over the king, and the sun shone forth above; these circumstances allayed our apprehensions, and indicated, that the sky would resume its former altitude; and fear together with the dream vanished away."[8]

The king then directed the astrologers to ascertain by taking the altitude whether the stars foretold any great catastrophe, and the result announced an approaching deluge.[9] The king ordered them to inquire whether or not this calamity would befal Egypt; and they answered, yes, the flood will overwhelm the land, and destroy a large portion of it for some years.[1]

[7] Some histories say that Philimon was with Noah in the ark.—*Dr. Sprenger.*

[8] The above-mentioned MS. 7503, on the authority of Usted Ibrahim Ben Wasyff Shah, relates another vision of the high-priest, as follows: — "I saw the town of Amasis, together with its inhabitants, overthrown. The images of the gods (idols) cast down from their places, and personages coming down from Heaven, and smiting with iron maces the inhabitants of the earth. I asked them why they did so? They answered, Because these people did not believe in their gods. I asked if there were means of security? They answered, Yes, whoever seeks will find it from the Master of the Ark (Noah). I was overcome with alarm." It is remarkable, that Makrizi in this passage, "They do not believe on their gods," writes their gods, and not their idols, which latter words he uses in all other instances, in accordance with the Mahometan custom of mentioning with contempt heathen deities. Soyuti renders this passage, "they do not believe on Bramah, who created them." The word Kufar is accompanied with a substantive in an accusative case, when it signifies "to disbelieve in." The B, therefore, in the word Barahm, is not to be considered a preposition, but part of the word, which is Barahm=Brahma, and not Rahm, or Rama.—*Dr. Sprenger.*

[9] According to Makrizi, fire was to proceed from the sign Leo, and to consume the world. A further continuation of this story is also given, on the authority of Ustad Ibrahim, whose detail was derived from a papyrus found in the monastery of Abou Hormeis, a document, which will be afterwards alluded to.—*Dr. Sprenger.*

[1] Besides the general deluge mentioned in holy writ, Dr. Sprenger is of opinion, that a partial inundation took place in Egypt, and on the shores of the Mediter-

He ordered them to inquire if the earth would again become fruitful, or if it would continue to be covered with water. They answered that its former fertility would return. The king demanded what would then happen. He was informed that a stranger would invade the country, kill the inhabitants, and seize upon their property; and that afterwards a deformed people, coming from beyond the Nile, would take possession of the kingdom;[2] upon which the king ordered the Pyramids to be built, and the predictions of the priests to be inscribed upon columns, and upon the large stones belonging to them; and he placed within them his treasures, and all his valuable property, together with the bodies of his ancestors. He also ordered the priests to deposit within them, written accounts of their wisdom and acquirements in the different arts and sciences.[3] Subter-

ranean Sea, described by Masoudi, and alluded to by Abul Feda; whether the supposition be true or not, it is extremely probable, that after the great and miraculous event, large bodies of water were left on the higher levels, which from time to time may have been increased by the melting of snow and by other natural causes, till, bursting through their respective barriers they produced, without the special intervention of Almighty power, at different times, partial inundations, and other alterations in the surface of the earth, which, under Divine Providence, may have had the salutary effect of keeping in human remembrance the former tremendous judgment. The destruction of the earth by fire and water, (both which agents may be supposed to have been co-existent, since without water no volcanic effects can be produced), and the idea of a resuscitation of the world after a certain period, appear to have been alluded to by the Hindoos in their mythology, and also by the Parsees; and Herodotus states, that this was also the belief of the antient Egyptians, and terms it ἀπωλειαν. It would be perhaps difficult to ascertain whether these ideas proceeded from traditions of the universal deluge, or of the final consummation of the globe. The learned doctor then repeats his opinion, that the fable of Surid having built the Pyramids before the deluge, is not of Arabic origin, but that it is possible that they were erected with the vain idea of providing against the recurrence of a similar event; and that the tower of Babel, built for somewhat the like purpose, may have been a Pyramid. He concludes, with great probability, that these monuments were constructed by people of the same nation, who, he conjectures, established the religious institutions at Babylon, came to Egypt from Iran, and were termed by the Arabs, Edris (teachers); by the Egyptians, Tauth; and by the Greeks and Persians, Hermes; and, as a term of hostility, Cushites.

[2] These deformed people appear to be the men of ignoble birth, out of the eastern parts, mentioned by Manetho.

[3] Masoudi says that all these marvellous things were placed within the Pyramids, whilst Makrizi, on the authority of Usted Ibrahim, particularises the subterraneous passages as the depositories. On the margin of one of Makrizi's MSS., we read that the inscriptions of the priests were on the ceilings, roofs, &c., of the subterraneous passages.—*Dr. Sprenger.*

raneous channels were also constructed to convey to them the waters of the Nile.[4] He filled the passages[5] with talismans, with wonderful things, and idols; and with the writings of the priests, containing all manner of wisdom, the names and properties of medical plants, and the sciences of arithmetic and of geometry; that they might remain as records, for the benefit of those, who could afterwards comprehend them.

He ordered pillars to be cut, and an extensive pavement to be formed. The lead employed in the work was procured from the West. The stone came from the neighbourhood of Es Souan. In this way were built the Three Pyramids at Dashoor,[6] the eastern, western, and the coloured one. In carrying on the work, leaves of papyrus, or paper, inscribed with certain characters, were placed under the stones prepared in the quarries; and upon being struck, the blocks were moved at each time the distance of a bowshot (about one hundred and fifty cubits), and so by degrees arrived at the Pyramids.[7] Rods of iron were inserted into the centres of the stones, that formed the pavement, and, passing through the blocks placed upon them, were fixed by melted lead. Entrances, with porticoes composed of stones fastened together with lead, were made forty cubits under the earth: the length of every portico being one hundred and fifty cubits. The door of the eastern Pyramid was one hundred cubits eastward from the centre of the face, in which it was placed, and was in the building itself. The door of the western Pyramid was one hundred cubits westward, and was also in the building. And the door of the coloured Pyramid was one hundred cubits southward of the centre, and

[4] يدخل فيها النيل الي مكان بعينه These are the words of the original; they are not clear, and may mean the channel for the whole stream, which was, according to Makrizi and Soyuti (but not to Masoudi), constructed for the conveyance of the water into Upper Egypt, and to the westward, in which case, it is to be observed, the water must have flowed up hill.—*Dr. Sprenger.*

[5] It is stated, apparently on the authority of Usted Ibrahim, that these passages are forty cubits under the earth; and that the foundations of the Pyramids were afterwards laid at four hundred royal cubits, or, according to some, five hundred, each of which is equal to two common cubits; and that the base was a space of one hundred cubits.—*Dr. Sprenger.*

[6] Makrizi and Soyuti do not mention Dashoor, so that the author probably alluded to the Pyramids of Gizeh, as Dashoor is only inserted in a MS. in the Bodleian.—*Dr. Sprenger.*

[7] This may be a symbolical manner of expressing that they moved the large stones by mechanical powers which were described upon books or leaves, or it may allude to the quarry-marks.

was likewise in the building. The height of each Pyramid was one hundred royal cubits, equal to five hundred common cubits. The squares of the bases were the same. They were began at the eastern side. When the buildings were finished, the people assembled with rejoicing around the king, who covered the Pyramids with coloured brocade, from the top to the bottom, and gave a great feast, at which all the inhabitants of the country were present.

He constructed, likewise, with coloured granite, in the western Pyramid, thirty repositories for sacred symbols, and talismans formed of sapphires, for instruments of war composed of iron, which could not become rusty, and for glass, which could be bent without being broken; and also for many sorts of medicines, simple and compound, and for deadly poisons.

In the eastern Pyramid were inscribed the heavenly spheres, and figures representing the stars and planets in the forms, in which they were worshipped.[8]

The king, also, deposited the instruments, and the thuribula, with which his forefathers had sacrificed to the stars, and also their writings; likewise, the positions of the stars, and their circles; together with the history and chronicles of time past, of that, which is to come, and of every future event, which would take place in Egypt. He placed there, also, coloured basins (for lustration and sacrificial purposes), with pure water, and other matters.[9]

Within the coloured Pyramid were laid the bodies of the deceased priests, in sarcophagi of black granite; and with each was a book, in which the mysteries of his profession, and the acts of his life were related. There were different degrees among the priests, who were employed in metaphysical speculations, and who served the seven planets. Every planet had two sects of worshippers; each subdivided into seven classes. The first comprehended the priests, who worshipped, or served seven planets; the second, those who served six planets; the third, those who served five planets; the fourth, those who served four planets; the fifth, those who served three planets; the sixth, those who served two planets; the seventh,

[8] The stars are at this time represented in the East in their constellations, as may be seen in a fine MS. by Kazwini, in the library at the India House.—*Dr. Sprenger.*

[9] The account of the contents of the Pyramids is somewhat different in the extract of Makrizi. Every writer, indeed, seems to have enumerated as many marvellous things as his imagination could suggest.—*Dr. Sprenger.*

those who served one planet. The names[1] of these classes were inscribed on the sides of the sarcophagi; and within them were lodged books with golden leaves, upon which each priest had written a history of the past and a prophecy of the future. Upon the sarcophagi were, also, represented the manner, in which arts and sciences were performed, with a description of each process, and the object of it. The king assigned to every Pyramid a guardian: the guardian of the eastern Pyramid was an idol of speckled granite, standing upright, with a weapon like a spear in his hand; a serpent was wreathed round his head, which seized upon and strangled whoever approached, by twisting round his neck, when it again returned to its former position upon the idol. The guardian of the western Pyramid was an image made of black and white onyx, with fierce and sparkling eyes, seated on a throne, and armed with a spear; upon the approach of a stranger, a sudden noise was heard, and the image destroyed him. To the coloured (that is, the Third Pyramid) he assigned a statue, placed upon a pedestal, which was endowed with the power of entrancing every beholder till he perished. When every thing was finished, he caused the Pyramids to be haunted with living spirits; and offered up sacrifices to prevent the intrusion of strangers, and of all persons, excepting those, who by their conduct were worthy of admission. The author then says, that, according to the Coptic account, the following passage was inscribed, in Arabic, upon the Pyramids. "I, Surid, the king, have built these Pyramids, and have finished them in sixty-one years.[2] Let him, who comes after me, and imagines himself a king like me, attempt to destroy them in six hundred. To destroy is easier than to build. I have clothed them with silk; let him try to cover them with mats."

It is added, that the spirit of the northern Pyramid had been observed to pass around it in the shape of a beardless boy, with large teeth, and a sallow countenance; that the spirit of the western Pyramid was a naked woman, with large teeth, who seduced people into her power, and then made them insane, she was to be seen at mid-day and at sunset: and that the guardian of the coloured Pyramid, in the form of an old man, used to

[1] The names are given in the MS. of Masoudi, but they cannot be made out. —*Dr. Sprenger.*

[2] Makrizi says "in sixty years;" and states, that he had endeavoured to find the inscription, but in vain.—*Dr. Sprenger.*

scatter incense round the building with a thuribulum, like that used in Christian churches.[3]

The following story is related by Masoudi, in the "Akbar-Ezzeman."

Twenty men of the Faioum wished to examine the Pyramid. One of them was accordingly lowered down the well by means of a rope, which broke at the depth of one hundred cubits, and the man fell to the bottom; he was three hours falling. His companions heard horrible cries; and, in the evening, they went out of the Pyramid, and sat down before it to talk the matter over. The man, who was lost in the well, coming out of the earth, suddenly appeared before them, and uttered the exclamations—"Sak, Sak, Saka, Saka," which they did not understand; he then fell down dead, and was carried away by his friends. The above-mentioned words were translated by a man from Syad (Said,) as follows: "He, who meddles with, and covets what does not belong to him, is unjust."[4] Masoudi proceeds to relate, that, in a square chamber, some other explorers discovered in the lowest part of the Pyramid, a vase containing a quantity of fluid of an unknown quality. The walls of the chamber were composed of small square stones of beautiful colours; and a person, having put one of these stones in his mouth, was suddenly seized with a pain in his ears, which continued until he had replaced it. They also

[3] The Coptic account ends here. It appears from M. Quatremère's dissertation, that the traditions of the antient Egyptians were preserved by their descendants, the Copts, who were held in great respect by the Arabs. It is also said, that, in the reign of Ahmed Ben Touloun, who conquered Egypt about 260 A.H., a learned man, above one hundred years old, and of either Coptic or Nabathæan extraction, lived in Upper Egypt. This person had visited many countries, and was well informed of the antient history of Egypt, and was, by order of Ahmed Ben Touloun, examined before an assembly of learned Mahometans; and Masoudi's account of the Pyramids is said to have been given upon the authority of this learned man. Masoudi also mentions certain persons who were, by profession, guides to the Pyramids. It may be remarked, that the Arabian authors have given the same accounts of the Pyramids, with little or no variation, for above a thousand years; and that they appear to have repeated the traditions of the antient Egyptians, mixed up with fabulous stories and incidents, certainly not of Mahometan invention. The history, however, although evidently incorrect, yet seems as well worthy of credit, as the fables of Greek mythology, or as Homer's account of the heroes engaged in the Trojan war.—*Dr. Sprenger.*

[4] Makrizi has alluded to this story; and it is given at some length in MS. 9973, in the British Museum. This account has been taken from the latter document, on account of the bad condition of Masoudi's manuscript, but it has been carefully collated and compared with it.—*Dr. Sprenger.*

discovered, in a large hall, a quantity of golden coins put up in columns, every piece of which was of the weight of one thousand dinars. They tried to take the money, but were not able to move it. In another place they found the image of a sheik, made of green stone, sitting upon a sofa, and wrapped up in a garment. Before him were statues of little boys, whom he was occupied in instructing: they tried to take up one of these figures, but they were not able to move it. Having proceeded further to a quadrangular space, similar to that, which they had previously entered, they met with the image of a cock, made of precious stones, and placed upon a green column. Its eyes enlightened all the place; and, upon their arrival, it crowed, and flapped its wings. Continuing their researches, they came to a female idol of white stone, with a covering on her head, and lions of stone on each side, attempting to devour her, upon which they took to flight. This took place in the time of Yerid Ben Abdullah.*

In the "Golden Meadows," (9576 British Museum), the author, Masoudi, after adverting to the great size of the Pyramids, says, that they were inscribed with the unknown and unintelligible writings of people and of nations, whose names and existence have been long since forgotten. He then mentions, that the vertical height of the Great Pyramid was about four hundred cubits, and that its breadth was the same; and repeats the well-known tradition, that upon them were recorded the arts and sciences, various secrets, and knowledge, and also the sentence, "I have built them," &c.; he likewise narrates the story of the Mahometan king, who would have destroyed them, had he not found that the wealth of the whole kingdom would not have afforded him the means of doing so. The author says, that the Pyramids were built of squared stones of unequal size, and that they were the tombs of kings; that when one of these monarchs died, his body was placed in a sarcophagus of stone, called in Egypt and Syria, "Al Harm;" and that a Pyramid was built over it, with a subterraneous entrance, and a passage above one hundred cubits long; that the Pyramid was constructed in steps, which were built up and completed from the top to the bottom, and effaced when the whole was finished.

Masoudi, in his "Akbar-Ezzeman," also states, that when the Caliph Haroun Al Raschid was in Egypt, he wished to take down one of the Pyramids to see what it contained. He was told that

* Who was supposed to have been a king of Egypt.

it was impossible. He answered, that he was determined at least to open it; and accordingly made the chasm, (which was in the author's time visible), by means of fire and of vinegar, and of iron instruments, and of battering engines. He was at a great expense: and, having penetrated twenty cubits, he found a vessel filled with a thousand coins of the finest gold, each of which was a dinar in weight. When Haroun Al Raschid saw the gold, he ordered that the expenses, he had incurred, should be calculated, and the amount was found exactly equal to the treasure, which was discovered. He was at a loss to imagine how the cost of his operations could have been foretold, and how the money could have been placed exactly at the end of his excavation.

PAPYRUS FOUND IN THE MONASTERY OF ABOU HORMEIS.

TRANSLATED INTO ARABIC, 225 A.H.

It is said, that in a tomb at the monastery of Abou Hormeis, a body was found wrapped round with a cloth, and bearing upon the breast a papyrus, inscribed with antient Coptic characters, which could not be deciphered until, a monk, from the monastery of Al Kalmun in the Faioum, explained it as follows:[6] "In the first year of King Diocletian, an account was taken from a book, copied in the first year of King Philippus[7]—from an

[6] The story is related by Masoudi, but this relation of it by Al Kodhai is given, because he was a cadi in Egypt; and mentions the persons by whom the tradition had been handed down from former times.—*Dr. Sprenger.*

[7] Moses, of Chorene, seems to allude to this account when he mentions that Valarsaces sent to his brother Arsaces (the governor of Armenia), a learned man called Moriba to inquire into the antient history of Armenia. This person is supposed to have found, amongst the archives of Nineveh, a book, translated from Chaldaic into Greek by order of Alexander the Great, which contained historical records of the most remote antiquity. Valarsaces ordered them to be inscribed upon a column; and the author derived from this monument a considerable part of his history. Cedrenus also says, upon the authority of an apocryphal work ascribed by the Egyptians to Hermes, that Enoch, foreseeing the destruction of the earth, had inscribed the science of astronomy upon two pillars; the one composed of stone to resist the operation of water, and the other of brick to withstand that of fire. Cedrenus was a monk, and lived about 1050.—*Dr. Sprenger.*

inscription of great antiquity written upon a tablet of gold, which tablet[8] was translated by two brothers—Ilwa, and Yercha—at the request of Philippus, who asked them, how it happened that they could understand an inscription, which was unintelligible to the learned men in his capital? They answered, because they were descended from one of the antient inhabitants of Egypt, who was preserved with Noah in the ark, and who, after the flood had subsided, went into Egypt with the sons of Ham, and dying in that country left to his descendants, (from whom the two brothers received them), the books of the antient Egyptians, which had been written one thousand seven hundred and eighty-five years before the time of Philippus, nine hundred and forty-six years before the arrival of the sons of Ham in Egypt, and contained the history of two thousand three hundred and seventy-two years; and that it was from these books that the tablet was formed. The contents of the book were: 'We[9] have seen what the stars foretold; we saw the calamity descending from the heavens, and going out from the earth, and we were convinced that the waters would destroy the earth, with the inhabitants and plants. We told this to the King Surid Ben Shaluk: he built the Pyramids for the safety of us,[1] and also as tombs for himself and for his

[8] A French author remarks, that it is possible that in the two hundred and twenty-fifth year of the Hegra an Arabic version was found of a Greek translation from an antient MS., which may have related to celestial observations, and to the construction of the Pyramids; and also that the two larger Pyramids may, from their relative positions, have been called "eastern" and "western," and the Third, from the dark colour of the granite, termed "painted." He conceives that treasures, statues, and mummies, may have been found within them. He remarks, that the founder of the Great Pyramid is called Surid, son of Shaluk; of the Second, Herdjib; and of the Third, Kemses, son or nephew of Surid: an account which agrees with the Greek historians. He observes, that the entrances, which have been discovered, are on the northern sides, and about twelve metres above the bases of the Pyramids; but that in the time of the Caliph Al Mamoon, as the accumulation of rubbish must have been less, the subterraneous passages, mentioned by the Arabian historians, may have been more apparent; and he conceives that their accounts are, to a certain degree, founded on facts.

[9] Masoudi begins his narration of Surid (whose history he has taken from this document) by saying, that that monarch, son of Shaluk, king of Egypt, had a dream, which he imparted to the chief of the priests, and directed him to examine what the stars foretold, &c.—*Dr. Sprenger.*

[1] As there are two readings at this place, it does not appear that the meaning of the original was clearly known.—*Dr. Sprenger.*

household. When Surid died, he was buried in the eastern Pyramid; his brother Haukith, in the western; and his nephew Karwars, in the smaller — the lower part of which is built with granite, but the upper with a stone called Kedan.' The Pyramids are described to have had doors with subterraneous porticoes or passages one hundred and fifty cubits in length. The entrance into the eastern Pyramid is said to be on the side next the sea, and that of the strong Pyramid towards the Kiblah; and vast treasures and innumerable precious things are mentioned to have been enclosed in these buildings. Then the two brothers calculated what time had elapsed from the flood to the day when the translation was made by them for King Philip; and it appeared to be one thousand seven hundred and forty-one years, fifty-nine days, and twenty-three $\frac{59}{400}$ hours."

"In this manner were the Pyramids built. Upon the walls were written the mysteries of science, astronomy, geometry, physic, and much useful knowledge, which any person, who understands our writing, can read. The deluge was to take place when the heart of the Lion entered into the first minute of the head of Cancer, at the declining of the star. The other indications were, the Sun and Moon entering into the first minute of the head of Aries and Saturn, in the first degree and twenty-eight minutes of Aries; and Jupiter, in the twenty-ninth degree twenty-eight minutes of Pisces; and Hermes, *i.e.* Mercury, in the twenty-seventh minute of Pisces; the rising Moon, in the fifth degree and three minutes of the Lion."[3]

[2] Masoudi affirms, in the Akbar-Ezzeman, that he wrote his account of Surid from a Coptic modern history, entitled

تاريخ بووبد (يووبد) المصريين

[3] This statement was translated from the Coptic into Arabic 225 A.U., supposed to be four thousand three hundred and twenty-one years after the construction of the Pyramids. The astronomical observations are not inserted from an idea of their accuracy, but as they are expressed in the originals, although there is some difference between the MS. of Masoudi and that of Kodhai. Masoudi states, that Rawis Jupiter was in twenty-five minutes of Aries and Aphrodite; Venus in the twenty-ninth degree and three minutes of Pisces; that Saturn was in the Balance; and the rising Moon in the fifth day and five minutes of the Lion. An account of the appearance of the heavens when the waters subsided, is also included. — *Dr. Sprenger*

EBN HAUKAL

WROTE ABOUT THE MIDDLE OF THE 4TH CENTURY A.H.

(963 *Uri's Catalogue.*)

He describes the two larger Pyramids as the most extraordinary buildings in the world. He also says, that a Prince of the Abassides, either Al Mamoon or Al Motassem, reading upon one of them the inscription, "I have built them," determined to take them down, but found that all the tribute of Egypt would not pay the expense, although it amounted to 4,279,000 dinars.[4]

ABOU ABDULLAH MOHAMMED BEN SELAMAH ABOU AL KODHAI,

DIED 454 A.H.

He gives the account of the papyrus (see page 330) upon the authority of Abou Ebn Ali Hassan Ben Caliph Ben Hadid, who got his information from Yahya Ben Othman, who received the account from Mohammed Ben Soka el Temimi.[5]

ABOU ABD ALLAH MOHAMMED BEN ABDURAKIM ALKAISI,

DIED ABOUT 565 A.H.,

In his work "Tohfat Alalbab" (MS.) says, that Al Mamoon opened the Great Pyramid, which is opposite to Fostat. The author entered it, and found a square chamber with a coved roof, and in it a well, ten cubits deep, large enough for a person to enter; from whence, at each angle, doors opened into large apartments, in which bodies had been deposited, enveloped with many wrappers, that had become black through length of time: they were entire

[4] The author الحوقل, who is quoted by Makrizi, and who gives the same account, is probably the same person.

[5] This is from the account of Makrizi; it is also mentioned by Yakut.—*Dr. Sprenger.*

and retained their hair, and as none of it was grey, they appeared to have belonged to young persons; they were stiffened so that their joints could not be moved, and they had become as light as air: he likewise says, that there were four circles filled with human bodies in the well, and that the whole place was infested with bats. He also observes that various other animals were buried there. And he says, that he found a bundle above a cubit long, in the form of a turban composed of very white cotton interwoven with red silk; and that, upon opening it, he found a dead lapwing completely covered with feathers as if it had just died. From the vaulted chamber above-mentioned the higher part of the Pyramid was accessible by a passage, about five paces wide, but without any stairs or steps.[6] He was informed that those, who went up there in the time of Al Mamoon, came to a small passage, containing the image of a man in green stone, which was taken out for examination before the caliph; and that when it was opened a human body was discovered in golden armour, decorated with precious stones, in his hand was a sword of inestimable value, and above his head a ruby of the size of an egg, which shone like fire, and of which Al Mamoon took possession. The author further states, that he himself saw the case, from which the body had been taken, and that it stood at the door of the king's palace at Cairo, in the year 511.

EDRISI.

NOTE BY J. L. BURKHARDT.

Extract from Shereef Djemal eddyn Aboo Djafar Mohamed Edrysy's "History of the Pyramids," written in 623 A.H.[7]

REFERRING to what Aboo Zeyd Al Balkhi, the author of a geographical treatise, Aboo e' Szalt, and others relate of the passages

[6] According to M. Jomard's account, the author says, that from a chamber a passage conducted to the top of the Pyramid; but he seems, by his description of the size and form of the ascending passage, to mean not the summit of the building, but the King's Chamber.

[7] There appears to be a mistake in this date. See Edrisi's preface to his own work, translated by Jaubert. 4to. Paris, 1836, p. 22.

by which one ascends in the interior of the Pyramid towards the top, and of the passages that descend down to its lowest recesses, we shall relate here that we ourselves entered into the Great Pyramid, and entered into the cubic chamber, in which the decayed and rotten stuff was found. The way to this chamber from the aperture, that was opened by Mamoon, is as follows:—

"He, that enters the Pyramid, continues in it for about twenty draas; in some places in an upright, in others in a bent posture. Daylight shines upon him until he turns walking upright to his left hand, where he finds a sloping alley, which he ascends to the distance of a man's length, without meeting with any level step. Below this alley is a pit, said to be a well formed here, the opening of which admits a feeble light. A slender person only can enter into it. The learned Noor Eddyn-Al-Tabary has informed me that he crept into it upon his stomach to the distance of less than a man's length, and then walked in it upright upon his legs about twenty draas, after which he reached the exterior of the Pyramid, at a place elevated above the breach practised on the north side, right in front of him who enters. To return now to the description of the alley. It is ascended until a door is reached near a block of stone, by which one ascends towards another sloping alley. To the right of him, who ascends, is a well situated between the two alleys and the just-mentioned door, but below the second alley. By this door (or opening), a square room is entered with an empty vessel in it. On the roof of the room are writings in the most antient characters of the heathen priests. Returning from hence to the place, through which one enters, the second alley is ascended. On both sides of it are blocks of stone, in which cavities have been cut out with axes to facilitate the ascent. They are about one draa distant from each other. Another square room is then finally reached, in which is a hole, which appears to have been excavated there. An empty vessel is seen here similar to the former. Youssef Al Baba e' Sherr Abou Derr has told me, that, in company with Kalyan the Persian, he entered into some of the descending passages of the Pyramid, which led them to a place, from whence they found no way to proceed."

"A few years ago, the red Pyramid, which is the Third or smaller one, was opened on its lower skirt on the north side; but it is not known who opened it. An alley was found leading down about twenty draas, or more; and on its extremity a narrow place that affords room for one person only. After which, a road is entered, of difficult and fatiguing passage, where one creeps along upon the stomach for above twenty draas more, until an oblong square room is reached, in which several pits are seen, that were dug by those who went in quest of treasures. From thence another room is entered, the four walls of which are formed by six or seven chambers with arched doors, as are the doors over the small private chambers in the baths. In the middle of the space on the side, and round which these chambers extend, is a long blue vessel quite empty. The Shereef Abou Al Hosseyn, of the family of Mymoon Ibn Hambe, has told me that he was present when the opening into this Pyramid was effected by people who were in search after treasures. They worked at it with axes for six months, and they were in great numbers. They found in this vessel, after they had broken the covering of it, the decayed, rotten remains of a man, but no treasures on his side, except some golden tablets inscribed with characters of a language nobody could understand. Each man's share of these tablets amounted to one hundred dinars."[8]

The following extract was translated by M. Jomard: "The Pyramids are six miles from Cairo. The height of them is four hundred cubits, and the square of the bases the same. The blocks, with which they were built are five cubits high, and ten or fifteen cubits long. They diminish at the top to a space scarcely sufficient for a camel to lie down. The way to them is by a bridge, and by a town, called Dashoor, where Joseph was imprisoned, a distance of three miles;[9] and to the Pyramids is five miles; and they are the same distance from the river. These buildings were covered with inscriptions, which are nearly effaced; and in the interior of each of them there is a passage, barely allowing of an entrance. The two Great Pyramids have a subterraneous communication; and they are said to have been tombs, and previously granaries.

[8] This account is copied exactly from the MS.

[9] This was probably intended for a description of the road which passes near Saccara during the inundation.

ZAMAKSHARI.

(DIED 538 A.H.)

His book, entitled ربيع الابرار "The Spring of the Righteous," contains the same account as that given by Balkhi.

ABD ALLATIF.

(BORN 557 A.H.)

EXTRACTS from a "Description of the Ancient Monuments of Egypt," by Abd Allatif, an Arabian physician of Bagdad, born in 557; translated by M. Silvester de Sacy, 1810.

"Of all the countries, that I ever visited myself, or ever acquired any knowledge of from the researches of others, there are none that can compare with Egypt, in regard to the immense number of antient monuments, that it contains. Among the wonders of that country are the Pyramids, which have attracted the attention of many authors, whose works are filled with descriptions and dimensions of these buildings. There are many of them; and they are all situated upon the same side of the river as Gizeh, upon the same line with the antient capital of Egypt, and at the distance of about two days' journey from it. There are also others at Bousir. They vary much in size. Some are constructed with earth and bricks, but the greater number of them are built of stone, in a form exactly pyramidal, and with a smooth and even surface; others are constructed in steps or degrees. There were formerly at Gizeh a considerable number of small pyramids, which were destroyed, in the time of Salah-eddin Youssef (the son of Ayyoub), by Karakousch, an emir in that prince's army. He had the superintendence of all the buildings in the capital, and constructed the stone wall, which surrounds Fostat, Cairo, and all the ground between those two places, and the citadel upon the Mokattam. He also built the citadel itself, and the two wells, which exist to this day, and are considered among the wonders of Egypt; a staircase of nearly three hundred steps leads to the bottom of them. Karakousch built the arches, that are still to be seen at Gizeh, with the stones of the small pyra-

mids, which he destroyed. There were nearly forty of these arches; but in the present year, (597 of the Hegra,) they were filled up by a rash and ignorant person, to whom the care of them was intrusted; as he imagined that, by confining the waters, as it were, by a dike, they would spread themselves over the territory of Gizeh, which would in this manner participate in the benefits of the inundation; but it had exactly the contrary effect, for the force of the waters caused three of them to burst, without any advantage arising to the country from the inundation. The remains of the buildings, that were destroyed by Karakousch, are still to be seen; I mean the small stones and rubbish not worth taking away.

"In proceeding to describe the Three Pyramids, which are distinguished above all the others by their immense and wonderful size, it is to be remarked, that they are situated in a line at Gizeh, in front of Fostat, and at short distances from each other, facing the east. Two of the three are of enormous magnitude, and are built of white stone. These are nearer together than the Third; which is one quarter less than the others, and is constructed of red speckled granite so extremely hard that it is worked with great difficulty. This monument appears small when compared with the others; but when viewed by itself, and at a little distance, it is truly magnificent. The form of the Pyramids, and their extreme solidity, are indeed well worthy of admiration; and have enabled them to resist the effects of time for so many ages, that it might almost be considered that it is Time, that experiences the eternal duration of these extraordinary edifices;[3] and the more they are considered, the more convincing is the proof, that the most consummate genius and skill were employed in their construction. It is also to be observed, 'Que chacun de leurs angles, fait face à l'une des quatre vents cardinaux, or la violence du vent se trouvè rompu, quand elle est reçu par une angle, ce qui ne serait pas si elle rencontroit une plane.' From their pyramidal form, founded upon a square

[3] "Another writer, according to Makrizi, has expressed the same idea, saying, 'All things dread the effect of Time; but that over the Pyramids Time has no power.' If these expressions, a little exaggerated, had need of any apology, their justification would be found in that fine line, which will exist as long as the Pyramids, and which is so applicable to them, 'Leur masse indestructible a fatigué le Temps.' Was it possible that Frenchmen could neglect the opportunity of engraving it upon the Pyramids?"—*M. De Sacy.*

base, and completed to a point, the different parts rest upon and support each other, and gravitate towards the centre.

" But to return to the two Great Pyramids. Those, who have taken their dimensions, assert that the base of each is four hundred black cubits in length, as many in breadth, and also in perpendicular height. Their pyramidal form is broken at the top, where there is a plane ten cubits square. The following remarks are the results of mine own observations. One of our party shot an arrow in the direction of the perpendicular height of one of these Pyramids, and of that of its thickness towards the base, and it fell nearly upon the half of that space.[4] Being told that, in a neighbouring village, there were people who were accustomed to ascend to the summits, we sent for one of them, and, upon giving him a trifle, he immediately began to climb up in the same manner, and even more expeditiously than any one could mount a staircase,[5] without even taking off his slippers, or his clothes, which were very full.[6] I desired him, when he arrived upon the top of the Pyramid, to measure it with his turban; and when he came down again, we found it to be eleven cubits, (*coudée naturelle*). A man, who was well versed in the art of taking admeasurements, made the perpendicular height of the Pyramid to be nearly three hundred and seventeen cubits; and to each of the sides of the four triangular planes, which incline upon that perpendicular, he gave four hundred and sixty cubits. I believe these admeasurements to be wrong,[7] and that

[4] This sentence is very obscure.

[5] It is to be observed, that Abd Allatif says, "Comme nous aurions monté un escalier," &c., which would imply steps; however, if he really saw inscriptions, the revetment must have remained.

[6] "Mr. White very justly observes in his Notes, that the passage in Pliny, where he says, speaking of the Pyramids, 'Pyramides sitæ sunt in parte Africæ, monte saxeo sterilique, inter Memphim oppidum et quod appellari diximus Delta, à Nilo minus quatuor millia passuum, à Memphi septem; *vico apposito quam vocant Busirin*, in quo sunt assueti scandere illas,' supposes that, in the time of that writer, the Pyramids still had their revetment; for, says Mr. White, 'res erat haud sanè memorabilis, si non perfectissima operis lævitudo, contra quam nunc est, lubricum et difficilem ascensum præbuerit.' The same observation has not escaped M. Quatremère de Quincy. The argument applies to the expression of Abd Allatif, and authorises the inference that the Pyramids retained the greatest part, at least, of their revetment, in the thirteenth century."—*M. De Sacy.*

[7] These admeasurements are the same as those given by Mohalli, an Arabian writer, and quoted by Ed. Bernard; except that Mohalli only gives nine cubits as the square on the top of the Pyramid. According to the testimony of Kircher,

he ought to have given four hundred cubits to the perpendicular. If it please God that I am able to execute all my plans, I mean to take the dimensions myself. One of the two Pyramids is open. The opening into the interior leads to narrow passages, to deep wells, and to pits and precipices, as I am assured by those, who have had the courage to explore them in search of treasures. No way through the building has been discovered; the most frequented passage ascends to a square chamber in the higher part of the Pyramid, containing a stone sarcophagus. The opening, by which the Pyramid is now entered, is not the original entrance, but a forced passage made, it is said, by the Caliph Mamoon.[8] Many of my companions entered this opening, and

Joseph Ben-Altiphasi, that is to say, يوسف بن التيفاشي in his 'History of Egypt,' and Ebn-Salamas in his work styled 'Le Jardin des Merveilles du Monde,' make the height of the Pyramid to be three hundred and seventeen cubits, and give four hundred and sixty cubits to each of the sides of the equilateral triangles which form the inclined planes. (See Ebn-Salamas, M. Sim, Assemani, and M. Schnurrer.) Abd Allatif observes, that these admeasurements appear to be incorrect, and that four hundred cubits ought to have been given as the height of the Pyramids. There certainly is an error in the dimensions here given, considering the present condition of the Pyramid; but Abd Allatif's supposition is still more incorrect, because, supposing a regular quadrangular pyramid, complete in all its parts, of which the base is four hundred and sixty cubits, and all the triangles equilateral, their sides, being all of equal dimensions, would be four hundred and sixty cubits, and consequently the height of the Pyramid would be 325·26; and supposing the same Pyramid to be broken, and terminated by a section of ten cubits, the height would be reduced to 318·19, which is not far from the given number, three hundred and seventeen; only, it must be observed that, in saying that the equilateral triangles, which form the four inclined planes of the Pyramid, have for their common dimensions four hundred and sixty cubits, the triangles have been supposed to be perfect, and no regard has been paid to the dilapidation of the building, which changes the triangles into 'trapezium isosceles,' of which the two parallel sides have the inferior side four hundred and sixty cubits, and the superior side ten cubits, and of which the two equal sides have each four hundred and fifty cubits. When Abd Allatif says, that four hundred cubits ought to have been given as the height of the Pyramid, perhaps he had heard of the *apothême*; because, according to the dimensions given, if no regard was paid to the Pyramid having been broken off, the dimensions of its *apothême* would be 398·37 cubits, which is not far from four hundred. As to the rest, in order to know the exact dimensions of the three Great Pyramids, the 'Description of the Pyramids of Gizeh,' by M. Grobert, should be consulted."—*M. De Sacy.*

[8] "It appears to me very doubtful that the first opening of the Great Pyramid was made by the Caliph Mamoon. My doubts arise from the manner in which Denys de Telmahre, a Jacobite patriarch of Antioch, who accompanied Mamoon into Egypt, speaks of the Pyramid, which, when he visited it, was already open. What I have said upon this subject may be found in my 'Observations sur le Nom des

went up into the chamber constructed in the top of the Pyramid. Upon their return, they related the wonderful things they had seen, and told us that the passage was nearly stopped up with bats and dirt; that the bats were as large as pigeons, and that in the upper part were openings and windows, which appeared to have been made to admit air and light. When I again visited the Pyramids, I entered this passage with several people, but having penetrated about two-thirds into the interior, and having through fear completely lost my senses, I returned half dead.

"These Pyramids are built of great stones, from ten to twenty cubits in length, and from two to three cubits in thickness and breadth. The extreme exactness with which they have been worked and laid is worthy of the utmost admiration. The joints are so perfect, that it would be impossible to pass a needle or even a hair between them. They are cemented together by a

Pyramides.' M. Wahl observes, that some Eastern historians attribute the first opening of the Pyramid to the Caliph Mahmoud; and others, to Haroun Al Raschid: but he does not mention the Works from which he forms this opinion. He must, at all events, have made some mistake, because none of the caliphs before Mamoon bore the name of Mahmoud. Or did M. Wahl mean to speak of the Caliph Mahdi, whose name was Mahommed? The common tradition, however, which attributes to Mamoon the opening of the Pyramid, is founded upon the testimony of Masoudi, who wrote about a century after the time of this caliph. According to Makrizi, Masoudi reports this fact in a work entitled 'Histoire des Temps Passées et des Choses, que la Fortune a détruites,' and he there says, 'That Abd-Allah Mamoon son of Haroun Al Raschid, having come into Egypt, and having visited the Pyramids, wanted to demolish one of them to see what they contained; and that, upon its being represented to him as an undertaking, in which he would not succeed, he answered, 'An opening *must* be made;' upon which his orders were obeyed; and the chasm was made, by the help of fire, vinegar,' &c., which is to be seen at this day. I examined this passage, as quoted by Makrizi, and it is said, that 'Raschid having arrived in Egypt, and having seen the Pyramids,' &c., but I have no doubt that this is an error in the manuscript, for I do not recollect that any other Arabian writer has mentioned any voyage of Haroun Al Raschid into Egypt. Ebn Haukal, a contemporary of Masoudi, contents himself with saying, that one of the Caliphs, Abbasis, who he believed to be Mamoon or Motasem, had an idea of destroying the Pyramids, but that he gave up the project, after having ascertained that the whole of the revenue of Egypt would not be sufficient to defray the expenses of the enterprise. I have quoted this passage from Ebn Haukal after Makrizi, in my 'Notice de la Géographie Orientale, d'Ebn Haukal,' where it may be seen, and I have since found it in the manuscript of Ebn Haukal, in the library of the University of Leyden. May it not be supposed, that the Pyramid had been opened before Mamoon, and that the orders, given by that prince to prosecute still further the researches into the interior of the Pyramid, gave rise to the idea that he made the first opening?"—*M. De Sacy.*

layer of mortar not thicker than a sheet of paper; with the composition of which I am totally unacquainted. The stones were inscribed with antient characters, now unintelligible. I never met with a person in all Egypt, who had even heard of any one who understood them. The inscriptions are so numerous, that copies of those alone, which may be seen upon the surface of the two Pyramids, would occupy above ten thousand pages.[9] I have read in some of the books of the antient Sabæans, that one of these two Pyramids is the tomb of Agathodæmon, and the other of Hermes, who are said to have been two great prophets, of whom Agathodæmon was the most famous and the most antient. It is also said, that people used to come from all parts of the world on a pilgrimage to these tombs.

[9] "I translate صحيفة 'pages,' and not like Pococke, 'books;' 'Confecerit numerum decies millium librorum.' It is مصحف, and not صحيفة, which means 'a volume.'

"Here, assuredly, is a positive proof, and I cannot resist again repeating what I have said in my remarks on Mr. White's edition. When one considers the style of Abd Allatif, and the character constantly maintained by him, of an impartial observer and an authentic historian, it is impossible to reject his evidence upon a subject of so much importance, and upon which he expresses himself in so decided a manner. His authority is strengthened, also, by that of many other still more antient Arabian writers; and even when his expressions appear a little exaggerated, I do not think that the negative proof that is endeavoured to be drawn from the silence of some of the most respectable historians, can weaken the statement of an eye-witness so deserving of implicit faith. The weight of this testimony is also increased by the words of Abd Allatif in some lines further on, wherein, speaking of the traditions which existed relative to the destination and origin of the Pyramids, he says, 'I have written at length upon that subject in my great work, and I have related what others have said of these buildings: I refer those of my readers to that work, therefore, who are desirous of further details. I confine myself here to give an account of *what I myself have seen.*'

"I have said that many other Arabian writers before Abd Allatif agreed with him respecting hieroglyphical inscriptions on the Pyramids, I will now quote some of them. Masoudi, an author who flourished in the beginning of the fourth century of the Hegra, and who wrote in Egypt, says, 'The Pyramids are buildings of immense height, and of wonderful construction; the surfaces are covered with inscriptions, written in the characters of antient nations and kingdoms which no longer exist. What this writing is, and what it signifies, are not known.'

"Ebn-Khordadbeh, a traveller, and author of a 'Geographical Description of the Mahometan Countries,' written in the *third* century of the Hegra, in a passage quoted by Makrizi, thus expresses himself, 'All the mysteries of magic, and all the recipes of the medical art, are written upon these Pyramids in Musnad characters.'

"Makrizi also quotes from another writer,—'We have seen the surfaces of the two Great Pyramids covered with writings from the top to the bottom.

" I refer those, who wish for a more detailed account, to my great work upon the Pyramids, in which I have inserted the opinion of others respecting them; in *this*, I confine myself to the relation of what I myself saw of them. When Malec-alaziz Othman Ben Youssef succeeded his father, he was prevailed upon by some persons of his court,—people totally devoid of sense and judgment,—to attempt the demolition of the Pyramids. He accordingly sent miners, and quarrymen, under the superintendence of some of the principal officers and emirs of his court, with orders to destroy the *red* Pyramid, which is the least of the *three*. They encamped near it, collected labourers from all parts of the country at a vast expense, and endeavoured with great assiduity for eight months to execute the commission, with

The lines were close, and well inscribed opposite each other. They were written in the characters that were in use among those, who constructed the buildings, the letters are now unknown, and the sense cannot be discovered."

" Ebn Haukal, a traveller and writer of the fourth century of the Hegra, states also, that the exterior faces of the Great Pyramids were covered with writing, in characters, which he calls Greek-Syriac (if there is no mistake in the manuscript of his work, belonging to the Library at Leghorn, and which I have now before me). But, according to the passage quoted by Makrizi from Ebn Haukal, the characters were Greek.

" William de Baldensel, who travelled in the Holy Land and in Egypt in the beginning of the fourteenth century, asserts, that he saw, upon the two Great Pyramids, inscriptions in various characters. ' In quibus,' says he, ' inveni scripturas diversorum idiomatum;' and he gives an inscription in six Latin verses.

" The learned Greaves, in his ' Pyramidographia,' seems to doubt what the Arabs say of these inscriptions; but the authorities, that he had before him, were not so precise as those which I have quoted. Herodotus speaks of a single inscription upon the Pyramid of Cheops, which does not seem to agree with the multitude of inscriptions mentioned by the Arabs, but he may only, perhaps, speak of it on account of the singularity of its contents. From what the historian says of this inscription in Egyptian characters, I do not know whether one can absolutely conclude, with his learned translator, that this inscription was in common characters, and not in hieroglyphics, although it may have been so, and the others in hieroglyphics. Mr. White, to account for the silence of Greek and Latin writers in regard to the writings asserted by Arabian authors to have been inscribed upon the Pyramids, makes a very judicious observation, which I shall give in his own words: — ' Tanta scilicet hieroglyphicorum characterum erat copia passim in Ægypto, ut sine admiratione in oculos spectantium incurrerent, neque digni visi fuerint qui in historiam referrentur. Ob eandem causam factum est, ut in descriptionibus obeliscorum, qui à solo ad summum cacumen cælati sunt notis hieroglyphicis, talium notarum memoria à plurimis veterum sit neglecta.'

" It must be at the same time confessed, that, according to the accounts of various travellers the highest part of the revetment of the Second Pyramid, which is still to be seen, is without any hieroglyphical writings. This, however, only proves

which they were intrusted, removing each day, with great difficulty, *one* or *two* stones, which were forced out of their places by levers and wedges, and afterwards drawn down with cords. When at last one of these enormous blocks fell, the tremendous noise was heard at an immense distance, and the concussion shook the ground, and made the mountains tremble. On its fall it became so deeply imbedded in the sand, that it was moved with the greatest difficulty, when it was broken up by means of wedges, and the fragments were conveyed to the foot of the adjoining mountain. At length, having exhausted all their pecuniary resources, their resolution grew proportionably weaker as their labour and difficulties increased, and they were at last obliged to give up the undertaking as hopeless. This took place in the year of the Hegra 593. Considering the vast masses that have been taken away, it might be supposed that the building would have been completely destroyed; but so immense is the pile, that the stones are scarcely missed; and it is only on one of its sides that any trace of the impression, which was attempted to be made, can be discovered, and on which the revetment is imperfect.[1] Observing one day the extreme labour it

that the whole of the entire surfaces were not covered with them. It is also said, that no remains of hieroglyphics whatever are to be found, either upon the numerous fragments which are scattered about the base of the Pyramids, or upon any of the pieces of granite or marble which formerly made part of their revetment, and which are at this day to be found at Gizeh and elsewhere, where they serve for lintels, thresholds, and door-posts; but it may be doubted whether this fact has ever been satisfactorily ascertained, which after all affords only a negative argument."—*M. De Sacy.*

[1] "It appears that at the time when Abd Allatif wrote, the three Great Pyramids had still their revetment entire, which induced him to believe that the Third had been built entirely of red granite. In the "Description of the Pyramids of Gizeh," by M. Grobert, this species of granite is described very correctly; but there are several faults in the printing.

"'The revetment of this Pyramid has been removed in modern times. The fine pieces of Elephantine granite, which are heaped up near its base, still retain their rectangular form (l'appareil des deux pavemens taillé à l'équerre), which incontestably proves that the surface had been constructed in ascending steps.'

"Norden says, that the summit of the Second Pyramid is covered with granite on the four sides; but this assertion, entirely contrary to the accounts of Arabian authors, is completely refuted by M. Grobert.

"Many Arabia nauthors name the Third Pyramid المذوّن which must be translated 'coloured, or of colour,' not 'painted.'

"M. Wahl has substituted 'basalt' for 'granite,' in his account of Abd Allatif; but the reasons which he gives for doing so do not justify that translation."—*M. De Sacy.*

required to remove one of the blocks, I asked an overseer, who was superintending the operations, whether, if a thousand pieces of gold were offered to him, he would undertake to replace it in its original position; he answered, that if he were to be given many times that sum, he could not do so."

Book IV. Chap. 3 *and* 4.

In the "Prolégomènes Historiques" of Ebn Khaldoun, in M. De Sacy's "Abd Allatif," it is mentioned that Mamoon could only destroy a small portion of one of the Pyramids; that the workmen penetrated into an open space between the exterior and the internal masonry; that the chasm might be seen in the author's time; and that, according to some people, a treasure had been found, but that that was uncertain.

Book V. Chap. 4.

It is also stated, that when the Persians conquered Egypt, they forced open the tombs in search of treasure, and took away great riches from the Pyramids, which were the sepulchres of the kings: and that the Greeks afterwards did the same.

The patriarch (Denys Telmahre) also says, "We have seen in Egypt those buildings, (of which they pretend St. Grégoire de Nazianze spoke in his discourse.) They are not, as has been supposed, the granaries of Joseph, but wonderful mausolea erected over the tombs of their antient kings. They are oblique (that is to say, inclined planes) and solid, and are not hollow or empty.[2] I have looked through an opening, fifty cubits deep, made in one of those buildings, and I found that it was constructed of wrought stones, disposed in regular layers. The bases of the buildings are squares of five hundred cubits measured in cubits

[2] It might almost be inferred that the author intended to express that they were solid masses, without chambers or apartments, particularly, as in common with many other writers, he describes them as monuments erected over the tombs of kings. This certainly appears to be the case, in every instance, excepting in the Great Pyramid—the one to which he alludes; he therefore could only have judged of the interior of it from the excavations, and must have received his information from tradition, or from other sources.

of ——,[3] and their elevation is two hundred and fifty cubits. The stones, with which they are built, are from five to ten cubits in size, and are all wrought. At a distance, these buildings appear like immense mountains." Denys further says, "That he saw a house built upon the Nile, where the river is only one stream, before it divides into four branches. This house is like a square reservoir, in the middle of which is a stone column marked with degrees and admeasurements. When the river rises in the month of Elul, the waters rise in the interior of this house, and inspectors come every day to ascertain by the column how much they have increased. If they are below 14°, it proves that only a small portion of the land of Egypt is watered, no seeds are sown, and no taxes are raised; if the waters rise to 15° or 16°, there is a middling harvest, and the taxes are laid in proportion; but when they attain to 17° or 18°, it indicates that the whole of Egypt is inundated, and the harvest and taxes are then complete; if the waters rise to 20°, the country is completely desolated, and there is no harvest that year."

YAKUT.

DIED 626 A.H., ACCORDING TO HADGI KHALFA.

His "Geographical and Historical Dictionary" contains most of the quotations and authorities, which are cited by Soyuti, Makrizi, and other authors, respecting the Pyramids.

ABOU MOTHAFFER YOUSSEF BEN KAZALI,

(Generally called Sibt Al Jauzi,)

DIED 654 A.H.

MSS. Bodleian Library, Oxford.

He says, in his Mirat-ezzeman, that among the wonders of Egypt are the two Pyramids: the height of each of them is five hundred cubits, and the squares of the bases are the same. They diminish towards the top. Upon them there are seven sorts of writing:

[3] "The word was effaced in the manuscript."—*M. De Sacy.*

1. Greek; 2. Arabic;[4] 3. Syriac; 4. Musnadic; 5. Himyaritic;[5] 6. Roomish; 7. Persian.

He adds, that the Caliph Mamoon Ben Haroun Al Raschid came to Egypt,[6] and wished to take down one of the Pyramids to see what it contained. He was told that it was impossible; he answered, that at least it must be opened. He made a chasm, which the author says was to be seen in the Great Pyramid. Having penetrated twenty cubits, a vessel was found full of coined gold, each piece of which was a dinar in weight, one thousand dinars in all, and two hundred dinars besides. There was also a tablet, according to some accounts, of gold, to others, of coloured marble, with an inscription in antient characters, as follows:[7] "King ——, son of King ——, in the year ——, will open this Pyramid, and will expend in doing so a certain sum. We here repay him what he has laid out: if he continues his researches, he will be at a great expense, and will obtain nothing more." The caliph was greatly astonished: he admired the beauty and excellence of the money, and ordered an account to be drawn up of the expenses of the excavation, which, to his surprise, exactly amounted to the money he had discovered; he therefore observed that the antient people were very wise, and had a knowledge of future events, to which no other persons could ever attain.[8] It was said that the vessel was made out of an emerald, and that it was taken by order of the caliph to

[4] There are two manuscripts at Oxford—the one numbered 660 mentions, instead of Arabic, Hebrew.—*Dr. Sprenger.*

[5] A difference is made between Himyaritic and Musnad—see the note on Abou Ma'sher. The MS. 660, bears Hiritic, instead of Himyaritic. Eichhorn has given some account of the once powerful empire of Hira: a more detailed notice is contained in Masoudi's "Golden Meadows."—*Dr. Sprenger.*

[6] Makrizi, Soyuti, and the "Mirat-Ezzeman," by Ben Yugi, state that the Pyramid was opened by one of the Abbasides. A MS. in the Bodleian Library affirms that the Pyramid was opened by Al Raschid; but Makrizi quotes from Masoudi that it was forced by Al Mamoon.—*Dr. Sprenger.*

[7] This is copied with some alterations and additions from Masoudi.—*Dr. Sprenger.*

[8] Masoudi, and those who copy from him, do not mention an inscription, but merely relate that Al Raschid, or Al Mamoon, being surprised at finding the money, ordered it to be counted, when it was found equal to the expenditure. From Masoudi's account, it would appear that the caliph was not himself present when the treasure was discovered, but that the workmen sent him some of the money, when he admired the coinage and beauty of the metal, and ordered an account of the expenses incurred to be drawn up.—*Dr. Sprenger.*

Bagdad, and was there considered one of the wonders of Egypt. Several people also examined the chasm, of whom some perished, and others returned in safety.

AL MAKIN.

(DIED 672 A.H.)

In the first part of his history (MS. Arab. Christiana, No. 47 in Nicol's Cat.,) states that Hermes built the Pyramids; and that the antient kings, together with their treasures, were buried in them, as it was believed that they would return again to the world. It was also reported, that they were the granaries of Joseph.

JEMAL ED DIN MOHAMMED AL WATWATI AL KANINI AL WATWATI.[9]

(DIED 718 A.H.)

He narrates the story of Surid, and also the tradition that Hermes built the Pyramids. He likewise mentions that the Sabæans performed pilgrimages to them.

"The height of the Pyramid," he says, "is three hundred and seventeen cubits, and the length of each angle is four hundred and sixty cubits; the top is a square of six cubits; the length of every stone is five cubits; the height of the stones, fifty-two cubits." He states that there are seven entrances; each composed of one stone, and closed by one lock, with such exactness that they cannot be forced open; that there are seven chambers, dedicated to the seven planets; and in every chamber an idol of gold, with one hand upon the mouth, and with an inscription in Sind upon the forehead; that upon reading the inscription the idol opens its mouth, and discloses a key, which admits to various apartments.

[9] This author is quoted by Soyuti.—*Dr. Sprenger.*

SHEHAB EDDIN AHMED BEN YAHYA.

DIED (BETWEEN 741 AND 749 A.H.)

His Writings are in Twenty Volumes, and contain a great deal of Information. (Only the First Volume is in the Bodleian Library. Uri's Cat. 900.)[1]

THE most celebrated of the Pyramids of Egypt are the two at Gizeh. There are many traditions as to the time and purport of their construction. It has been asserted that they were temples sacred to the stars, that they were tombs, or that they were built to contain books and treasures, and for places of refuge during the deluge; they appeared, however, to the author to have been tombs.

"The Great Pyramid was opened by Al Mamoon, but nothing was discovered as to the motive, or time of its construction.[2] The gold found in it was weighed, and it was exactly the same sum which had been expended, and which had not been previously calculated.[3]

"Each of the Pyramids was consecrated to a star.

"1. The Sabæans performed regular pilgrimages to the great one, and also visited the others, which were less perfect.

"2. Every pyramid presents the form of a lantern. It begins at its base as an equilateral triangle, which diminishes as it rises, so that it is surrounded by equilateral sides. This form indicates that it was sacred to a star."

The author says, that he "often went to Gizeh, and examined the Pyramids to ascertain how much had been destroyed. They were smoothly built, so that one stone covered another, and the joints were close.

"As some of the Pyramids are composed of bricks, it is evident that they are posterior to the flood."

[1] See "Mém. de l'Acad. des Inscriptions." Vol. i. p. 354.

[2] A chasm here appears in the MS.—*Dr. Sprenger.*

[3] This story is mentioned by many authors, and also in the "True Chronicles;" but it is probable that Al Mamoon did not find any thing within the Pyramid: he certainly does not appear to have made any essential discoveries.—*Dr. Sprenger.*

THE FAMOUS TRAVELLER, IBN BATUTA.

(ABOUT 730 A.H.)

He says that the Pyramids were constructed by Hermes, the same person as Enoch and Edris, to preserve the arts and sciences, and other scientific acquirements, during the flood.

He details the history of the dream which occurred to Surid, and his consequent deliberations with the priests, who foretold that the Pyramid would be opened on the northern side; and he, therefore, ordered a sum of money, equal to the expenses of the excavation, to be placed there. He also records the inscription "I have built them," &c., and adds, that Al Mamoon effected the entrance by means of fire, vinegar, and battering engines.[4]

"KITAB SUCCARDAN," BY EBN ABOU HAJALAH AHMED BEN YAHYA ALTELEMSANI.

(DIED 776 A.H.)

British Museum MSS. Add. 5927 *and* 7319.—(*Bodleian Library, Oxford, in Nicol's Catalogue, No.* 140.)

It is mentioned, that there is a subterraneous passage by which the Nile enters into the Great Pyramid, and besides quotations from various authors, the following accounts are given:—

In the days of Ahmed Ben Touloun a party entered the Great Pyramid. They found in one of the chambers a goblet of glass of rare colour and texture. When they came back they missed one of the party and upon returning to seek him, he came out to them naked, and laughing said, "do not follow or seek for me," and then rushed back into the Pyramid. They perceived that he was enchanted, and told the circumstance to Ahmed Ben Touloun, who forbad that any should enter the Pyramid, and took possession of the goblet of glass, which was afterwards weighed, and found to be of the same weight when empty, and when full of water.

[4] This account is from a MS. belonging to M. de Gagangos.—*Dr. Sprenger.*

When Al Mamoon opened the fissure, which exists at present in the Great Pyramid, and had advanced about twenty cubits, he found a green crypt containing coined gold. The weight of every dinar was an ounce.[5] He was surprised at the excellence and redness of the money, and found upon calculation, that it exactly amounted to the sum, which he had expended in making the excavation. It was also said that golden statues adorned with jewels were discovered by a party in several chambers in the Pyramid, who having brought away as many as they could carry, found upon their coming out that one of their companions was wanting; who, whilst they were considering what was to be done, came out to them naked, and laughing wildly, exclaimed, "Sal Salabre, Sal Salabre," and then returned within the building.

From the Camoos (Dictionary) of FIRAZABADI.

(he died 816 A.H.)

The Haramān are supposed to be either two antient buildings erected in Egypt by Edris, to preserve the arts and sciences, and other knowledge, during the deluge; or the buildings of Sinan Ben el Moshalshal; (or the buildings of the antient antediluvians), erected in consequence of the stars foretelling the deluge. They contained every sort of charm and talisman.

There were also many smaller Pyramids.

EBN ABD AL HOKM,

GIVEN BY PROFESSOR GREAVES,

Repeats the account of Surid given by Masoudi, and of the opening of the Pyramid by Al Mamoon, which has been already inserted, when several embalmed bodies are said to have been found in different apartments, and also one in golden armour, inclosed with a ruby and sword in a case in the form of a human figure; he adds, that the Pyramid remained open, and was visited for many years.

[5] "Oukiyah" may possibly be the same as the Latin *uncia*.

MAKRIZI.

(DIED 845 A.H.)

His work on Egypt is No. 671 in Uri's Catalogue; and, in page 96, he observes, that besides many others there are eighteen Pyramids between Busir and Gizeh; that some of them are small and constructed with unburnt bricks, but that they are in general built with stone. A few are in steps or stages, but most of them have an inclined continuous form, and a smooth surface. A considerable number are situated at Gizeh opposite to Old Cairo Fostat; most of the smaller have been destroyed by Karakousch, (the vizier of Salah-eddin Youssef Ben Ayoub), who built with the materials Kela Gebel (the citadel), the walls of Cairo (Mesr), and the causeway with arches near Gizeh. He says, that there were various traditions respecting the three larger Pyramids at Gizeh, but that it was not known by whom, or for what purpose, they had been constructed. The author appears to have taken his remarks principally from "Abd Allatif," and then proceeds on the authority of Usted Ibrahim Ebn Wasyff Shah to give the account of Surid Ben Shaluk, related by Masoudi. He afterwards says, that the square of the base, and the height of the Great Pyramid, are five hundred cubits, each consisting of twenty-four inches;[6] that the four sides are equilateral, and that a line from the summit of the building down the centre of either of them would measure, if the Pyramid were perfect, five hundred cubits, but in its present state only four hundred and seventy. He states, that in a perfect state, the perpendicular height would be above four hundred cubits; that the base contains 500,000 square cubits. He considers that it is the most beautiful and extraordinary monument that was ever contrived, and that nothing can be compared with it. The excavation he attributes to the Caliph Al Mamoon, who, he says, ascended by a passage into a square chamber, where he found the sarcophagus which yet remains in it. The author then quotes from the fihrist (index) of Ibrahim Alwatwati al Warrak,[7]

[6] The MS. at Oxford is much defaced, but in a copy in the British Museum, 7317, these dimensions are said to be taken from Ali Ben Riswan, an Arab physician: Makrizi's whole account is indeed taken from other authorities.—*Dr. Sprenger.*

[7] According to M. Jomard's translation in the "Memoirs of the Institute," this author says, that a square chamber in the centre of the Great Pyramid, contains

that there was a great uncertainty about the history of Hermes of Babel; that according to some accounts he was one of the seven keepers in the temples,[3] whose business it was to guard the seven houses; and that he belonged to the temple of the planet Mercury, and acquired his name from his office, for Mercury, signifies in the Teradamian language, Hermes. He is also said to have reigned in Egypt, and to have had several children,[4] Taut, Aishm, Atrid, Koft. It is added, that he was renowned for his wisdom; and that he was buried in a building called Abou Hermes; and that his wife, or, according to other accounts, his son and successor, was buried in another; and that these two monuments were the Pyramids, and were called Haraman; that the height and breadth of the Great Pyramid were four hundred and eighty Hasheme cubits, and that the summit was a square of forty cubits, upon which an image had originally been placed.

He then cites from other authors, as follows:—

Mohammed Ben el Arabi, called also Mohiy Ed Din,—that the Pyramids were built by a people who believed in the metempsychosis, and that they were made use of in computing time.

Abul Sorur,—that the Pyramids were built by Hermes, or by kings, who were ambitious of the same distinction after their death, which they had possessed when alive.

Ben Matuy,—the discoveries are attributed to the Caliph Mamoon, and an account is given of the Pyramid of Meidoun.

Mohammed Ebn Abd Al Hokm,—that the Pyramids were constructed by Sheddad Ben Ad before the deluge; for that, if they had been built after that event had taken place, some positive and certain accounts of them would have remained.

Ibrahim Ben Ebn Wasyff Shah,—that the Pyramids were built by Surid, an antediluvian king, that they are defended by three guardians, and communicate with the Nile by means of a

a tomb made of polished stone, which had been painted; and also two statues, the one of a man holding a tablet of hieroglyphics, the other of a woman bearing a golden mirror; that between them was a vase containing a golden box full of liquid blood, closed up with bitumen; and that mummies of a man and of a woman, with idols and religious instruments, had been placed in the tomb.

[3] See Hammer; Purgstall, "Sur l'Influence Mahommedisme dans les Trois Premiers Siècles de l'Hegra" in the "Fundgrüben des Orients."—*Dr. Sprenger.*

[4] The names of the children of Hermes are written in the margin of the MS.—*Dr. Sprenger.*

canal. Historical events, and astronomical and medical treatises, were engraved upon them. The First was especially dedicated to history and astronomy; the Second to medical knowledge, and contained, in thirty chambers of granite, talismans, malleable glass, and other treasures; the priests were buried in sarcophagi made of granite, in the Third, and their annals were deposited with them. The stones of which the Pyramids are composed were fastened by iron rods through their centres, and by melted lead, and had been worked down from the top. These buildings were one hundred royal (five hundred common) cubits in height. They had all of them entrances forty cubits high; that of the eastern looked towards the east, of the Second to the west, and that of the Third to the south; that the entrances were one hundred cubits from the centre of their respective fronts, where the passages commenced.[5]

Abou Abd Allah Mohammed Ben Abdurakim Alkaisi,—that the Pyramids had quadrangular bases, and triangular sides; that they were eighteen in number; that the three largest were opposite to Fostat, and had bases five hundred cubits square, and were of the same height. That the largest (Haroun Youssef) was five hundred cubits in height, and had a circumference of two thousand. It was constructed with stones fifty cubits square. He also says, that the highest Pyramid was at the town of Haroun Misr; that it was like a mountain, and was built in five terraces, and was called "Meidoun."

Abou Yazid al Balkhi,—that an inscription was found upon a stone in the eastern Pyramid, which declared that, at the time when the two Pyramids were built, the Eagle was in conjunction with Gemini, 72,000 solar years before the Hegra.[6]

Abou Mohammed al Hassan Ben Ahmed Ben Yakub al Hamadani,—that the Pyramids were antediluvian, and that they resisted the force of the flood.

From another author, that the construction of the two

[5] M. Jomard imagines that the entrances are intended to be described as being forty cubits within the buildings, and that the passages were filled up with masonry for the distance of one hundred cubits.

[6] According to M. Jomard's translation of this author, Leo was in conjunction with Cancer. He remarks, that this account is very obscure; and says, that the traditions that the Pyramids were antediluvian buildings only prove their great antiquity, and that nothing certain was known about them; for that they have been attributed to Venephes, the fourth king of the first dynasty, and to Sensuphis, the second king of the fourth Memphite race.

Pyramids, to the westward of Fostat, was considered one of the wonders of the world; that they were squares of four hundred cubits, and faced the cardinal points. One was supposed to have been the tomb of Agathodæmon, the other that of Hermes, who reigned in Egypt for one thousand years; both of them were said to have been inspired persons, and to have been endowed with prophetic powers. That according to other accounts, these monuments were the tombs of Sheddad Ben Ad, and of other monarchs who conquered Egypt.

Eben Ofeir, that it was reported that Sheddad Ben Ad built the Pyramids.

In the "Manahiy al Fikr," by Ialal Uldin Mohammed Ben Ibrahim Alwatwati al Warrak, the same tradition is mentioned, but the names have the terminations of Hebrew plurals; Sheddak (Sheddad) Ben Adim, Ben Nerdeshir, Ben Cophtim, Ben Mizraim; and Sheddad is said to be an Egyptian. According to the testimony of the same author, (907 in Uri's Catalogue), and to that of Abou Mohammed Mustafa (785 Uri's Catalogue), the Adites worshipped the moon.

In an account written about 800 A.H., it is said, that Sheddad Ben Ad reigned over the whole world; that the Adites were very powerful, and peculiarly favoured by the Almighty; that they were giants, and endowed with supernatural strength, and exclaimed, "Who is stronger than we?" It is stated, that the Deity replied, "Do you not know that God, who created you, is stronger?" But that, notwithstanding repeated expostulations and the warnings of the Prophet Hud, sent for their admonition, they continued rebellious, and were destroyed by the Almighty.[8]

Abou Szalt[9] of Spain, says, in his "Risaleh" (Memoirs), that it is evident, from their works, that the antient Egyptians possessed great knowledge and science, particularly in geometry and astronomy; and mentions, in support of this opinion, the Pyramids and Barabi,[1] which had excited the admiration and astonishment of all beholders: "For what," he asks, "can be more surprising than these immense buildings, consisting of enormous blocks, with equilateral triangular sides, four hundred and sixty cubits in height, and which, besides the beauty of their proportions,

[8] This is mentioned in the 89th chapter of the Koran.—*Dr. Sprenger.*

[9] This author is mentioned by Edrisi.—*Dr. Sprenger.*

[1] This appears to be an Egyptian word adopted by the Arabs.

possess a solidity, that neither tempests nor time can destroy?" The author then quotes the verses of Motanebbi, mentioned by Ebn Al Werdi;[2] and also says, that the Pyramids were supposed to have been the tombs of antient kings, who were as desirous of posthumous glory as they had been of renown during their existence, and who intended, by these buildings, to transmit their names to remote posterity.

He mentions, that when the Caliph Al Mamoon arrived in Egypt, he ordered the Pyramids to be opened, and that an excavation was accordingly made in one of them with great labour and expense, which, at length, disclosed an ascending narrow passage, dreadful to look at, and difficult to pass. At the end of it was a quadrangular chamber, about eight cubits square, and within it a sarcophagus. The lid was forced open, but nothing was discovered excepting some bones completely decayed by time; upon which the caliph declined any further examination, as the expenses had been very great, particularly in provisions for the workmen. The author then observes, that it has been mentioned, that Hermes, called Trismegistus, and, in Hebrew, Enoch, having ascertained, from the appearances of the stars, that the deluge would take place, built the Pyramids to contain his treasures, and books of science and knowledge, and other matters, worth preserving from oblivion and ruin; but that it has also been said, that the founder of the Pyramids was either Surid Ben Shaluk, or Sheddad Ben Ad; that the Copts did not believe that the Amalekites came to Egypt, but that the Pyramids were built by Surid in consequence of a dream, in which he saw appearances in the heavens, which portended the flood; that he built them in six months, and covered them with coloured silk, and placed upon them the inscription already mentioned,—"I have built," &c. He likewise says, that the surfaces of the two Pyramids were covered with inscriptions from the top to the bottom, and that the lines were close to one another, but almost erased; but that it was not positively known who built them, nor what was the meaning of the inscriptions; in short, that every thing connected with them was mysterious, and the traditions respecting them various and contradictory; at the same time, that they commanded such admiration and astonishment, that they were actually worshipped. He adds, that the caliph ordered his people to ascend the Great Pyramid, which they accomplished in

[2] Ebn Al Werdi's writings have been translated by Frehn.—*Dr. Sprenger.*

three hours, and found at the summit a space sufficient for eight camels to lie down, and upon it a body, wrapped up in cloths, so much decomposed by time, that scarcely any part of them remained, except an embroidery of gold. A hall was likewise mentioned in this Pyramid, whence three doors led to as many chambers; that the doors were ten cubits long and five broad, and were composed of marble slabs, beautifully put together, and inscribed with unknown characters. They are said to have resisted their efforts for three days; but being at length forced open, three marble columns were discovered at the distance of ten cubits, supporting the images of three birds in flames of fire. Upon the first, was that of a dove, formed of green stone; upon the second, that of a hawk, of yellow stone; and upon the third, the image of a cock, of red stone. Upon moving the hawk, the door which was opposite moved, and upon lifting it up, the door was raised; and the same connexion existed between the other images and doors. In one of the chambers they found three couches, formed of a shining stone, and upon them three bodies; each body was shrouded in three garments, and over their heads were tablets inscribed with unknown characters. The other chamber contained arches of stone, and upon them chests of the same material, full of arms and of other instruments. The length of one of the swords was seven spans; and the coats of mail measured twelve spans. All these things were brought out, and the doors were closed, as at first, by order of the caliph. The number of the Pyramids are said to have been eighteen; the three greatest were opposite to Fostat; and the base of the largest was a square of five hundred cubits. A sarcophagus is also said to have been found in the Pyramid, covered with a lid of stone, and filled with gold; and upon the cover was written, in Arabic characters, "Abou Amad built this Pyramid in 1000 days."

The caliph is likewise said to have found a hollow image of a man made of green stone, and covered with a stone like an emerald, which contained a body in golden armour, a sword of inestimable value, and a ruby as large as an egg. According to some accounts, the hollow case of green stone was to be seen at the palace at Cairo in 511 A.H.[4]

[4] The author also gives an account, that the same person who built the Pharos at Alexandria, built the Pyramids; and mentions, with several other fabulous circumstances, that it was Jammai, the son of Sheddad, and that his name was recorded upon a high column.—*Dr. Sprenger.*

ABOU MOHAMMED AL HASSAN BEN AHMED BEN YAKUB AL HAMADANI AL YEMANI.[5]

(DIED 334 A.H.)

He says that the Pyramids were built before the deluge, and remained uninjured by it.

SOYUTI.

(DIED 911 A.H.)

From two MSS. in the Bodleian Library, 660 *and* 780 *in Uri's Catalogue.*

He states, that the two larger Pyramids are the highest and the most wonderful buildings in the world; that they appear like natural mountains; and that, although time has ruined all other edifices, yet these remain comparatively uninjured.

He further states, that the idol of the Pyramids, the Sphinx, called Balhouyah Balhit, and by the common people, Abou Chawl, "the Father of Terror," keeps back the approach of the desert sand by a talisman.

Soyuti then relates the story of Surid Ben Shaluk, as given by Masoudi, which he says was the common tradition; and also the account by Altelemsani. He adds, that the treasures concealed in the Pyramid were guarded by spirits, who have been frequently seen going round the buildings at daybreak and at noonday. One of these guardians was in the form of a naked woman with long hair; another, in that of a boy with a green or sallow complexion; and a third, in the form of an old man. The author then quotes from Ebn Abd Al Hokm, that the Pyramids were built by Sheddad Ben Ad, and conceives that they were erected before the deluge, or more accurate accounts would have existed about them. He also states from the Mesalik of Ebn Fadhl Illah, that they were either haikels of the stars, or tombs, or intended to preserve treasures and records during the deluge; and that they were held in great veneration by the Sabæans, who performed pilgrimages to them, and had opened one of them.

Soyuti mentions from Al Watwati al Warrak, that the Sabæans,

[5] Hamadan is a town in Yemen.—*Dr. Sprenger.*

in performing pilgrimages to the Pyramids, sacrificed hens and black calves, and burnt incense.

He then states, from Menardi, that many of the Pyramids were destroyed by Karakousch; that those that remained were tombs, and contained dangerous passages, some of which communicated with the Faioum, that they were sepulchres of antient monarchs, and were inscribed with their names, and with the secrets of astrology and of incantation; that it was not known by whom they were constructed, whether by Youssef, Nimrod, Queen Doluka, or by the Copts before the deluge, in order to preserve their treasures and records. Soyuti then says, that Seth took possession of Egypt; and that one of his sons, Kinan,[6] was Hermes. That he was endowed with great wisdom and travelled through the world, being under the especial protection of Providence. That he was likewise a great warrior, and conquered all the east, and introduced Sabaism,[7] which inculcated a belief in one god—the observance of prayer seven times in each day—sacrifices, fasts, and a pilgrimage to the Pyramids. It is also said, that he built one hundred and forty towns in the east, the least of which was Raha; and that, upon his return to Egypt, the king of that country did him homage, and believed in his predictions. He is supposed to have written the first treatise on astronomy; to have brought the people of Egypt from the mountains, where they had retired for fear of the waters, and to have taught them to cultivate the plains, and also to regulate the inundations of the Nile. He afterwards travelled into Upper Egypt, Nubia, and Abyssinia.[8] The author adds that, according to some accounts, one of the Pyramids is the tomb of Seth.

ABOU MOHAMMED MUSTAFA.

(DIED 999 A.H.)

(*Uri's Cat. MS.* 785., *Bodleian Library, Oxford.*)

He copies entirely from Masoudi.

[6] It may be Canaan, son of Ham.

[7] The MS. 666, in Uri's Catalogue, contains an account of the Sabæan observances.—*Dr. Sprenger.*

[8] This account is repeated by Ahmed Youssef Tifashi. It is also well known from Bar Hebræus, and other Eastern authors, that three personages are known under

ABUL HASSAN.

(*Library, East India House, No.* 617.)

He says that the tablet upon which was the inscription, was found in the mouth of a golden serpent. The rest of his account is an imperfect repetition of former authors.

MOHAMMED BEN ABDULLAH BEN MOHAMMED,

OF BAGDAD.

This book was written (in Turkish) 1089 A.H. (Addit. MSS. of Brit. Mus. 7861.) It contains an extract of the story of Surid, and an imperfect translation of Makrizi's work.

AL AKBARI,

"Wandering Stars," or the History of Misr and Cairo. By Shams Uldin Mahommed Ben Alshaikh Abou 'lshurur Ben Alshaikh Mohammed Albakri. (*Add. MSS.* 9973, *Brit. Mus.*)

It contains the Sabæan tradition (already given) as to Surid. The inscription, according to this account, was, "I have built the Pyramids to provide against the dreadful consequences of the deluge, which is about to overwhelm the earth."

He says that amongst the twenty-two remarkable objects in Egypt are the two large Pyramids. It is said, by the "Commentary upon Hariri" by Alsharisi,[9] that they are situated seven miles from Gizeh, and that they are built of enormous stones. One of them is the tomb of Hermes (Edris, to whom be praise!) the other that of Anamanimum.[1] The Sabæans perform pilgrimages

the name Hermes; that one of them was the Enoch of Scripture, and the Edris of profane history.—*Dr. Sprenger.*

[9] This Commentary is inserted in De Sacy's "Avertissement aux Séances de Hariri," Paris, 1822.

[1] Probably meant for Agathodæmon.

to them, and say, "Abou Chawl, we have finished our visit to thee."[2]

The Pyramids are said to have been covered with silk, and to have had the before-mentioned inscription—"We have covered them with silk, let others cover them with mats," &c.

The author then quotes Zamakhshari, and says that the stones were brought from a place four hundred farsangs from Gizeh.[3]

KITAB ALBULDAN.

MS. 7496, in the British Museum (The Book of Cities,")

CONTAINS the following account. There are three Pyramids, two of which are four hundred cubits high, and as many square. They are built with blocks of marble and of granite, ten cubits square; and the joints between the stones can scarcely be seen. Every block is engraved with Musnad-Hamaryaritic-characters, describing charms and talismans, and various branches of science. It was reported, that one of the caliphs, having read the inscription, "I have built," &c., determined to take them down, but was obliged to desist on account of the expense.

[2] Colonel Chesney discovered many Pyramids in Syria, to which pilgrimages were performed. Unkowski also mentions in Müller's "Sammlung Russicher Geschichte erstes Stück," p. 144, that he witnessed the celebration of the new year by the Lamas of the Calmucs in the following manner. A tent of Chinese cloth was pitched in an open space, marked out with red lines, to which the priest came in procession from the westward, with his attendants, amongst whom six manyis (young priests) carried sacred standards, each of them being supported by persons in red garments bearing a model of a pyramid and two large trumpets; three men followed with smaller trumpets; and then fifty others in yellow dresses preceded with drums and cymbals the rest of the priests, who were guarded by armed Calmucs. The procession moved round the tent, and then assembled in the space before it, where the models of the Pyramids were placed, which the priest worshipped by prostrating himself three times on the ground.—*Dr. Sprenger.*

[3] This MS. has been alluded to in p. 328.

ABDULLAH BEN TOULOUN

Calls the Pyramids and the Nile two of the wonders of the world, and says, that a serpent of gold was found in the Great Pyramid, bearing in his mouth a silver tablet, with an inscription; and that another inscription expressed, "I have built it, and covered it with dressed leather, and with striped cloth of Yemen, and afterwards with brocade: let those who think they have the power, cover it with mats." In consequence of this inscription, the Caliph Mamoon is said to have intended to cover it with mats, but found that the revenues of Egypt would not pay the expense.

TOHFAT ALAJAIB,

By Ebn Athir Aljazari, MS. 7497, *and Tohfat Alkind, MS.* 7034, *British Museum.*

The Pyramids of Gizeh are described to be of enormous size, and to have been constructed with large blocks of granite, kept together by bars of iron, fastened with melted lead. They were one hundred cubits high, and as many square.

The western Pyramid is said to contain in thirty chambers, arms and treasures of various kinds; the eastern, plans of the stars, and historical and prophetic records; and the Third to be the cemetery of the priests, and to have been inscribed with figures, carrying on the different trades and sciences. The guardian spirits are also mentioned; and the tradition of the operations performed by the Caliph Al Mamoon.

THE HISTORY OF THE MARVELLOUS THINGS IN EGYPT,

By Murtedi, an Arabian Author, translated into French by M. Vathir, Arabian Professor to the King of France. The date of the original MS. is not mentioned.

The author repeats the well-known tradition, that the Pyramids were built by Surid before the flood; and also the account of the

opening of the Great Pyramid by the Caliph Al Mamoon: and states that, to effect this purpose, he poured vinegar upon the stones after they had been heated by fire, and likewise employed battering engines.

He then details, with many curious exaggerations, the fabulous stories already given by other authors of a party, who visited the Pyramids, and who, he states, went down the first and second descents, and passed along the base of the Pyramid, until they came to a narrow passage,[4] whence a cold wind proceeded, and multitudes of bats, as big as black eagles; that one of their party was sent forward to explore it, with a cord fastened to his waist by which, in case of necessity, he might be withdrawn. That, after he had gone a short distance, the passage closed, and crushed him to death, and that a dreadful sound scared the rest of the party out of the Pyramid, of whom several died; and that as the rest were consulting upon what had happened, their lost companion suddenly appeared, and spoke to them in an unknown tongue. The author adds that, according to another account, a basin was found constantly overflowing with pure water, and in a chamber, adorned with precious stones of various colours, a quantity of treasure; and that those who took up any part of it were obliged to replace it, for until they had done so, they could not stir from the spot. After which he mentions the image instructing the children, the cock, &c., and the figure of a woman, standing upon her head, accompanied by roaring lions formed of white stone, and that the explorers arrived at statues of black stone, placed in a sandy desert, near the eastern side of the Pyramid. He adds, that when these adventures were known, people were sent in search of the sandy desert, but, (as it may be supposed,) without much success. He then describes, in the usual manner, the guardian spirits of the Pyramids, and subsequently mentions, with many fabulous particulars, that Horgib embalmed and buried his father, Surid, son of Shaluk, in the Great Pyramid, and afterwards built the Pyramid of Dahasonon.[5] He likewise gives a long account of Edris, Noah, &c. in the same fabulous manner.

[4] This appears to refer to the subterraneous chamber, and to the passage leading from it to the southward.

[5] Probably Dashoor.

In Abul Feda's "Historia Anteislamitica," edited by Fleisher, p. 16, it is stated, that Syria was one of the earliest inhabited countries, and that the Syriac language was the first that was spoken; that the Sabæan language was established by Seth and Edris, Enoch; that there was a town called Haran, to which pilgrims resorted, as they did to the two large Pyramids of Gizeh, one of which was said to be the tomb of Edris, and the other of his son, Syabi; where they celebrated, as a festival, the day on which the sun entered the sign of Aries. In the "Melelwa Nahil," MS. 47, in Nic. Cat., Hermes is represented as the pupil of Agathodæmon. In another account, MS. 785, Uri's Cat. Agathodæmon is mentioned as a king of Egypt. The Sabæans consider the Great Pyramid of Gizeh as the Tomb of Seth; the Second, that of Hermes; and the Third, that of Izabi; while the Copts state, that the Great Pyramid is the Tomb of Surid; the Second, that of Herjeb, or Haukith, his brother; the Third, that of his son.—*Dr. Sprenger.*

In the Syrian chronicle of Bar Hebræus, (translated into Latin by Professor Bruns), Enoch is said to have invented letters and architecture, under the title of Trismigistus or of Hermes,[6] to have built many cities and established laws, to have taught the worship of God, and astronomy, to give alms and tithes, to offer up first-fruits, libations, &c., to abstain from unlawful foods, and drunkenness, and to keep feasts at the rising of the sun, on new-moons, and at the ascent of the planets. His pupil was Agathodæmon, (Seth); according to other accounts, Asclepiades, a king, renowned for wisdom, who, when Enoch was translated, set up an image in honour of him, and thereby introduced idolatry. The Egyptians are supposed to have been descended from these persons. According to Hadgi Walfah, they derived their knowledge from the Chaldeans, who are said to have been the same as the Persian magi, and to have originally come from Babylon. The statues of the Grecian Hermes, which seem to agree in name with the Pyramids (Haram), were not images, but symbols of the Deity,

[6] With respect to the idle fables that the Pyramids were antediluvian, and built by Hermes, &c., it is scarcely worth while to observe, that the stones, of which they are constructed contain fossils.

and of the generative principle of nature in the form of obelisks.[7] Statues of this kind sacred to Hermes were erected by the Greeks in honour of distinguished heroes; and the same allegorical allusion might have been kept in view when the Pyramids were constructed as tombs. The Egyptian account, however, of Hermes, is very obscure; that person is mentioned in the "Burham i Kati" as the son of Rahman, son of Isfendiar, and to have arrived from the East. One of the sons of Aunshirwan has also that title. Hormig is the name of the first day of the month, which is considered propitious for the commencement of any undertaking; and it is a name of the planet Mercury; and Wednesday (dies Mercurii) was sacred to him: for to most of the planets days were attributed, in which their influence was supposed to govern human affairs; and even Mahommedan superstition assigned to children born on these days various qualities, characteristic of the heathen personifications of the different planets.[8] Hermes is mentioned in many astrological treatises as presiding over the sixth climate. An idea, a period of time, or any remarkable occurrence, were frequently connected with ideal persons in mythology, and when any similarity existed, received the same appellation. In this manner there were five Hermes; and the fifth was the Oriental Hermes who was worshipped by the Phineatæ; and is said to have fled after the death of Argus into Egypt, and to have civilised that country under the name of Thoth. This coincides with the account of Tifashi, which is evidently taken from an Egyptian tradition; reference may also be made to Plato, Philel. 21, 24, Phædro, p. 340. Hermes was likewise distinguished by his wisdom; and was reported to have been buried in a great building called Abou Hermes, which, together with another, the tomb of his wife, or of his son, was afterwards named Haraman. These were the two large Pyramids, and the form of their construction was called Makhrut.—*Dr. Sprenger.*

[7] See Winkelman, book i. cap. 1, 1011.

[8] See an old copy of Abou Ma'sher's astrology in the Bodleian Library, and a MS. of Lazioni at the India House. Abou Ma'sher, and many eminent astrologers, resided at Balk, about the first or second centuries of the Hegra.—*Dr. Sprenger.*

It was supposed that some information would be obtained from Persian literature respecting the discoveries that were made, and the state in which the Pyramids and other monuments were found, when Cambyses invaded Egypt; but this does not appear to be the case; and indeed the only fact which seems to be established by the Eastern authors, to whom we have now referred, is the opening of the Great Pyramid by Al Mamoon; and even of that, no distinct or rational account exists. The Arabian tradition, which attributes the origin of the Pyramids to an antediluvian king, Sheddad Ben Ad,[9] is as absurd as the Coptic account of Surid, and as the Sabæan story of Hermes (or Enoch).[1] These traditions prove indeed the great antiquity of the buildings, and also the ignorance of those who supposed that any building raised by human means could resist the effects of the deluge. It appears likewise impossible to reconcile the righteous characters of Seth, and of Enoch, and of their descendants through Shem, with the accounts of the Shepherd kings, given by Herodotus and by Manetho. The former writer states, that they were tyrants who cruelly oppressed the people, and putting a stop to their religious ordinances, reduced them to slavery; and he adds, that their memories were held in such detestation, that even in his time, the people were unwilling to pronounce their names, and therefore, called the Pyramids by a comprehensive term, the buildings of the Shepherd Philition, because that person fed his flocks on the spot where they were erected. Manetho, in a more detailed account, says, that these strangers were of ignoble birth, and invaded Egypt in vast numbers from the eastward, under the title of Shepherd Kings;[2] that they built a strong place called Avaris, and kept possession of the country for 511 years; and that upon their expulsion they

[9] Ad is said to have been the father of Amalek. — Bryant's "Antient History," p. 215.

[1] Enos the son of Seth, particularly mentioned in Gen. chap. iv., v. 26, seems to have been confounded with Enoch, whose miraculous history may have given rise to many fables; but whose connexion with Seth, who died 612 years before the flood, is not apparent, as five generations, and 492 years intervened between their respective births.

[2] Gen. chap. ix. The worship to which the form of the Pyramids has been supposed to have an allusion, appears to be adverted to in this chapter, and v. 25, 26, coincide with the name of captives, by which, Manetho says, these people were called in their sacred books.

migrated (in number, 240,000) to Syria, and built in that country Jerusalem and many other fenced cities, as a protection against the Assyrians, who at that time were masters of Asia. I have already mentioned Bryant's conjecture, that these shepherds were the descendants of Ham; and in support of that suggestion, I refer to his "Antient History," and to his "Observations on the Dispersion of Mankind," wherein he endeavours to prove that the first part of the 11th chapter of Genesis relates exclusively to the race of Ham, who appear to have founded large cities, and to have established a great empire on the plains of Shinar, from which, in defiance of Divine authority, they had dispossessed the descendants of Shem. Having been driven thence by the rightful owners, it seems that part of them invaded Egypt, and afterwards Syria; and that they were subsequently, under the titles of Philistines, Amalekites,[3] and other denominations, objects of Divine justice, and successively driven from every city and colony, which, for especial purposes, they were for a time permitted to occupy. These circumstances will account for the apprehensions which they are said by Manetho to have entertained of the Assyrians, and also for the abomination[4] in which every shepherd was held in Egypt; and which is the more remarkable, as the Egyptians had flocks and herds, and were of course, therefore, accustomed to attend to them. Their prowess and skill are recounted in the Bible;[5] and I have already alluded to the concurrent testimony of profane history, in which, notwithstanding various fables and exaggerations, (the effects of poetical license, of national prejudice, or of perverted tradition), their power and wisdom, and also their incessant wanderings and misfortunes, are forcibly described. In adverting to the early records of antient history, it is likewise remarkable that the author and precise object of those most sublime productions of human genius, the "Iliad" and "Odyssey," are involved in the same doubt and mystery, which attend the origin of the stupendous monuments assumed to be erected by a people of the same race as those to whom the poems in question are supposed to allude. The whole, however, in fact, at present, only admits of conjecture; but it is to be hoped will appear in a clearer light, when a more intimate knowledge is attained of the numerous

[3] Exodus, chap. xvii. v. 14–16. Numbers, chap. xxiv. v. 20.

[4] Genesis, chap. xlvi. v. 34.

[5] Numbers, chap. xiii. v. 28, &c. Deuteronomy, chap. i. v. 28.

hieroglyphical inscriptions, which seem, as well as the Pyramids, to have been, under Providence, wonderfully preserved, in order that their testimony may be added to that of the mighty poet, to prove the existence of nations, which although long since passed away and extinct, once occupied a most prominent and important position in the first ages of the world, and are particularly adverted to and distinguished in Holy Writ.

END OF THE SECOND VOLUME.

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ERRATA IN VOL. II.

Page 21,	line 8,	*for*	complimentorf	*read*	complimentary
.. 30,	last of text,	..	videts	..	videttes
.. 31,	line 4,	..	videts	..	videttes
.. 54,	first of note,	..	is	..	are
.. 70,	line 11,	*after*	built	*insert*	in
.. —	last line,	*for*	this	*read*	their
.. 85,	line 15,	..	were	..	was
.. 105,	.. 27,	..	on avant	..	en avant
.. 110,	.. 25,	..	7	..	5
.. —	.. 26,	..	5	..	7
.. 115,	last of note,	..	1695	..	1693
.. 116,	.. 24,	..	Tosouff	..	Youssef, *passim*
.. 118,	.. 30,	..	30 0	..	30 2
.. 122,	.. 21,	..	3 0	..	3 5
.. 122,	first of note,	..	ramp	..	ramps
.. 127,	2d of note,	..	ruins	..	ruined
.. 128,	line 19,	..	page 1	..	page 89
.. 133,	3d from bottom,	..	ENTRAT	..	ENRAT
.. 137,	line 14,	..	southern	..	northern
.. 141,	.. 11,	..	he	..	it
.. 155,	.. 4,	..	which	..	whom
.. —	.. 25,	..	complimental	..	complimentary
.. 163,	.. 24,	*before*	was	*insert*	it
.. 180,	.. 1,	..	most	*omit*	the
.. 183,	8th from bottom,	*for*	last	*read*	best
.. 191,	line 10,	..	Pyamids	..	Pyramids
.. 192,	6th from bottom,	..	could	..	can
.. 194,	2d from bottom,	..	eighty-seven	..	thirty-seven
.. 197,	line 3,	..	it	..	the passage
.. 198,	3d from bottom,	..	ex sculpta	..	exsculpta
.. 204,	line 21, and 2d of note,	..	Aniud	..	Amud
.. 207,	3d from bottom,	..	Dessica	..	Despica
.. 208,	line 36,	..	Alhokin	..	Al Hokm, *passim*
.. 212,	.. 10,	..	and	..	but
.. 214,	.. 1,	..	Cond	..	Coud
.. —	.. 3,	..	Machrisi	..	Makrisi
.. 217,	.. 15,	..	Beduweens	..	Bedouins
.. 228,	line 7,	..	Hegira	..	Hegra
.. 238,	.. 21,	..	Micerinus	..	Mycerinus
.. 241,	.. 10,	..	of	..	in
.. 247,	last but one,	..	Williams's	..	Wilkinson's
.. 250,	line 3,	..	Eben	..	Ebn
.. 251,	.. 1,	..	Hasselguist	..	Hasselquist
.. 264,	.. 26,	..	109 0	..	109 1
.. 265,	.. 15,	..	western	..	eastern
.. 266,	.. 16,	*after*	feet	*insert*	six inches
.. 280,	*let* Well *be the third line instead of the fifth*				
.. 287,	line 29,	*for*	length	*read*	height
.. 289,	.. 24,	..	firman	..	firmaun, *passim*
.. —	.. 33,	..	one hundred and fifty feet	..	two hundred feet
.. 299,	.. 1,	..	Pyramids	..	Pyramid
.. 300,	last line,	..	south-western	..	south-eastern
.. 326,	.. 8,	..	began	..	begun

CORRECTIONS MADE BY HAND.

.. 7,	last line,	prophet	*instead of*	rophet
.. 80,	reference to note *altered to* third line			
.. 82,	line 10,	m	*inserted after*	Fig. 2
.. 119,	.. 15,	3 8	*instead of*	3 0
.. 123,	.. 7,	3 1	..	3
.. 124,	.. 28,	102 6	..	102 0
.. 126,	.. 30,	102 6	..	102 0
.. 187,	.. 4,	Inaron	..	Iharon
.. 187,	.. 23,	mortar	..	mortars
.. 251,	.. 13,	Fuiyoum	..	Faiyoum
.. 265,	reference to note 9 *altered to* 21st line			
.. 353,	4th from bottom,	Trois	*instead of*	Troi
.. 365,	2d from bottom,	M.S.	..	S

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$\dot{V} + R($? $)$

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